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**"FRUIT WORLD OF AUSTRALASIA."**

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of each Month.

**Editorial and Management Notices.**

**Articles and Photographs.**—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printer's MSS." postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

**Subscriptions.**

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

**Renewal Subscriptions** are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

**Advertisements.**

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on application to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

**Victoria** (Head Office): 9 Queen Street, Melbourne, New South Wales: Carruthers, Farrum & Co., 77 King Street, Sydney. **South Australia:** W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide. **Tasmania:** Saunders & Co., Murray Street, Hobart. **Western Australia:** D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth. **Queensland:** Gordon & Gotch Ltd., Queen Street, Brisbane. **New Zealand:** Gordon & Gotch Ltd., Wellington, Dunedin and Auckland. **Great Britain:** Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C. England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. M. SHOOBRIDGE, M.L.C.

**THOUGHT FOR THE MONTH.**

One who never turned his back, but marched breast forward,  
Never doubted clouds would break,  
Never dreamed, though right were worsted, wrong would triumph;  
Held, we fall to rise, are baffled to fight better.

—R. BROWNING.

**News in Brief.**

Although earnest efforts have been made to retain in Victoria the services of Dr. A. E. V. Richardson, M.A., Superintendent of Agriculture, whose acceptance of a scientific position in South Australia was recently announced, it is understood that Dr. Richardson's decision to go to South Australia is quite definite.

Growers are busy working over unsuitable varieties to more profitable kinds. Now is the time for grafting.

Great progress is being made in the construction of the Nathan Storage Dam, the main storage for water for the Dawson Valley irrigation scheme. When completed the dam will be the largest in the world, having a surface area of 28 square miles.

Valuable notes on Citrus Culture are given in the article, "Fruitgrowing under Irrigation," by our Special Correspondent.

The value of grading machines is seen in the fact, as reported by our Queensland correspondent, that in the Maroochy Shire, amongst the citrus growers, the installation of mechanical sizers has increased from two to over forty.

The crusade against the use of synthetic compounds, instead of pure fruit juices, is gaining strength.

Levies on Queensland fruitgrowers, at the rate of ½d. in the £, to pay for their share in the expenses of the Council of Agriculture, are expected to realise £2,000.

**EMPIRE PREFERENCE.**

The recent preference debates in the British House of Commons was a sorrowful affair, declares the "Empire Review" for July. The Government only won by five, and would not have succeeded at all had Mr. Baldwin given well-wishers outside his party a chance. But he made so protectionist a speech that not even Mr. Chamberlain's subsequent modifications could pull the doubtful quite over the line. And all over no increase in taxation whatever, but positively a reduction in favor of folk who bled and starved and died for the common cause!

**EXPORTING PLANTS, TREES AND STOCKS.**

That there is a considerable volume of trade in the export of fruiting plants, trees and tree stocks is seen in a return recently furnished by the Horticultural Division of the Department of Agriculture of Victoria. It will be noted that these figures are for Victoria only, and do not include similar exports from the other States. Details of the Victorian exports are as follows:—

Number of Fruit Trees, Stocks and Berry Plants Exported from Victoria to Undermentioned Countries for 3 Years, 1/7/21 to 30/6/24.	
Monte Video	105,533 Trees & Stocks.
Monte Video	500 Berry Plants.
Buenos Ayres	272,960 Trees & Stocks.
Buenos Ayres	4,600 Berry Plants.
Java	124 Berry Plants.
India	1,223 Fruit Trees.
Colombo	4,758 Fruit Trees.
Colombo	320 Vines.
Colombo	151 Berry Plants.
East London	60 Fruit Trees.
East London	42 Berry Plants.
Batavia	30 Fruit Trees.
United Kingdom	6 Fruit Trees.
South Africa	32 Fruit Trees.
South Africa	45 Berry Plants.
New Zealand	2,243 Fruit Trees.
New Zealand	375 Berry Plants.

393,002 Total.

It will be noticed that from a total of 393,002, no less than 378,066 were shipped to South America. This is inclusive of berry fruit and would in the opinion of Mr. E. Meeking, State Supervising Officer, (Fruit), roughly represent a sufficient quantity of trees to plant 3,800 acres, or a sufficient average annual quantity to plant approximately 1,300 acres per annum.

As South America has been importing these stocks for many years, it will be easily understood that the expansion in area being planted is fairly rapid, and would, in a few years, put South America in a position to become a serious competitor with Australia in the export of fruit.

No details are available regarding the varieties of stocks exported, but there is reason to believe that these mainly consist of Apple stocks.

**EXPORTING FRESH PINEAPPLES.****"Highly Profitable Business."**

"There is no question of the possibility of successful transport of fresh Pineapples to England, and from inquiries made whilst in London last year, it would appear that a highly profitable business could be developed."

The foregoing important statement is contained in a letter from Mr. F. W. Wakefield, cold storage investigator, dated from aboard t.s.s. "Esperance Bay" on July 7th.

## DORADILLO GRAPES.

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### A Serious Position.

A deputation from the Grape-growers' section of the South Australian Fruitgrowers and Market Gardeners' Association waited on the Premier of South Australia (Hon. J. Gunn), and the Minister of Agriculture (Hon. T. Butterfield), on August 8, requesting assistance for growers of Grapes, particularly Doradillos.

Mr. C. T. Fisher (President of the Grape-growers' section) stated that whilst the bounty on wine would somewhat relieve the position of the wine Grape-growers, the producers of Doradillos were still suffering. If the Murray growers had not cut prices, growers would be receiving £5 or £6 per ton instead of £3. Despite protests, the price of local brandy had gone up because of the increased duty on imported brandy. There should be no discrimination by the Commonwealth Government between growers on irrigated and non-irrigated areas.

The Premier, in reply, said the present position had been brought about by excessive over-production; the consumption of spirit was 600,000 gallons per annum, yet one distillery alone was capable of producing 400,000 gallons: additional areas of about 7,000 acres of Doradillos would shortly be in bearing. The Government was exploring every avenue—export, industrial alcohol, etc. He would urge the Commonwealth Government to grant relief.

## FEDERAL GOVERNMENT'S OFFER.

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### Reduction of Excise and Bounty on Production.

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The Prime Minister (Mr. Bruce) informed the House that a crisis had occurred in the Doradillo Grape industry, particularly in South Australia, and in the soldier settlements of Victoria and New South Wales, through the very large production of the last season. The Ministry desired to take no action unless it could see the growers safeguarded, and an assurance that their crops would be purchased at a reasonable price. No such undertaking had been forthcoming. Instead of reducing the excise on brandy from 26/- to 21/-, the Ministry earlier in the year had increased the duty on brandy by 5/- a gallon. The Ministry had now decided to submit to Parliament certain other provisions in an endeavour to create a market so that it would be possible for the growers to dispose of an increased quantity of fortified wines. Parliament would be asked to reduce the excise in the case of fortified spirits from 6/- to 5/- a gallon,

and to give a bounty of 4/- a gallon on fortified wines of a strength of 35 deg. proof spirit or over.

The bounty, continued the Prime Minister, was not a bounty in the ordinary sense of the term, and other industries need not quote it as a precedent for fresh demands. The bounty was to be provided by the industry itself. The Ministry felt strongly that this problem was primarily one for the States concerned, because the States had placed the settlers on the land on condition that they grew Doradillo Grapes. In the season just closed the price had been so small that the Ministry proposed to the States that a direct bounty should be paid to the growers, and offered to pay half. Both Victoria and South Australia refused, and suggested that the Commonwealth should pay it all. The Ministry was not disposed to do that, but as the position was so serious they were repeating the offer to the States and were inviting the States to join with the Commonwealth in inquiring into the whole subject.

Mr. Gabb (S.A.) commended the Prime Minister's proposal to grant a bounty of 4/- on wines fortified to the extent of 35 per cent. proof. The other proposal, however, to differentiate to the extent of 1/- a gallon between Doradillo and other wines was most dangerous. Its effect would undoubtedly be to make the growers of other Grapes "graft over" to the Doradillo, with the result that there would be a greater area than ever in South Australia and Victoria under Doradillo, and the position would be worse than before.

## GRAPES AT FORBES (N.S.W.).

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### A Remarkable Yield.

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The wonderful richness of the Lachlan River flats is commented on by the "Forbes' Advocate" in a paragraph relating to the orchard of Messrs. J. B. Reymond & Sons Ltd. On 64 acres of land at this holding this year, a return of over eight tons to the acre of Shiraz Grapes was obtained. Shiraz is a wine Grape, and it is thought that this yield constitutes a record for the State of New South Wales, and probably a world's record for this variety. In gallons, it works out at 1,040 gallons of wine per acre.

Impossible is a word to be found only in the dictionary of fools.—Napoleon Buonaparte.

As soon as a man becomes satisfied with himself and with what he has done, he has ceased to improve, and has begun to degenerate.—George Eliot.

## BREEZY NOTES.

### Raisin the Wind.

To put the Australian dried fruit industry on its feet, and to save Mr. McIvor from worrying over the position of soldier settlers, Mr. Cattanach suggests the slogan, "Once a week, Anyway, Plum Pudding." This is how the "Evening Sun," Melbourne, sees it:

Little Jack Horner sat in a corner, putting his pudding away. Complacently chewing, "My bit I am doing," said he, "for the A.D.F.A. I don't give a stiver for Mr. McIvor; I can't say I relish the stuff. It's 'cos its my duty—I grant you its fruity—I'm socking down south the plum duff. "I hope you won't question I risk my digestion; I'm setting Australia first. My country is calling—she won't find me stalling. I'll eat and I'll eat till I burst. Men are spending their days in the cult of the raisin, the lechia currant as well. A halt in my chewin' might easily ruin for thousands of stout fellows spell. So sooner or later, I'll tip off the mater, whatever the old man may say, she mustn't begrudge it, but count in her budget. Plum duff, once a week—anyway!" Said little Jack Horner, as somewhat forlorn, but striving hard still to be brave, a last bite he tried, "Say a martyr I died. . . Plant sultanas all over my grave!"

### Orchard Tacks.

The subject of the orchard tax in Victoria has proved such a prickly subject that we thought growers were discussing Orchard Tacks.

Mr. Clapp, of the Victorian Railways, has issued another slogan for selling fruit. Who was it said he had eaten some s-loganberries?

### Rather Cheeky.

The "cheek" packing of Apples is recommended by a correspondent in preference to the "flat" system. This needs to be taken with a grain of salt. For instance, we know of a flat who tried some "cheek" packing—cheeky packing we would call it—big 'uns at the top and the little fellers underneath, and he didn't get any sympathy when the magistrate fined him forty bob and costs.

"Do you own a motor car?" was the principal question put by the A.W.U. advocate to Queensland fruit-growers in the recent Arbitration Court proceedings.

Yet we imagine that the manufacture of motor cars gives employment to hundreds of thousands of workers. A motor car is generally necessary for business as well as pleasure. And if any section of the community needs relaxation it is the primary producing section.

No man should blush and hang his head for shame because of having to answer a trembling "Yes" to a Labor Union delegate who asks the blood-curdling question, "Do you own a motor car?"

## Overseas Transport of Citrus.

Maturity at Time of Shipment : Care in Stowage : Temperature and Humidity in Holds.

Interim Report by Mr. F. W. Wakefield.

THE INVESTIGATIONS into the cold storage and transport of fruit by Mr. F. W. Wakefield have proved to be of great value to Australia.

When it became known that Mr. Wakefield was travelling to England on the s.s. "Esperance Bay" on which was a considerable quantity of Australian citrus fruit, the "Fruit World" approached the Victorian Central Citrus Association suggesting that Mr. Wakefield be requested to pay attention to the fruit on the voyage over. The idea being approved, the "Fruit World" sounded Mr. Wakefield on the subject, with the result that the parties were brought together, the scientist gladly accepting the opportunity for being of service to fruit producers.

Writing "at sea" between Colombo and Port Said, Mr. Wakefield has sent the following report, which will be perused with interest by all concerned:

The decision of the Federal Government to provide the sum of £10,000 as an insurance fund against risk of loss incurred in the transport of citrus, will be warmly appreciated by the enterprising growers who have endeavoured to build up an export trade.

This matter is of particular interest at the moment as the writer is actually on board ship, and is watching the interests of the Central Citrus Association in a cargo of several thousand cases of fruit. It is regrettable that we should know so little of the subject that the risks involved in fruit transport necessitate the establishment of such a fund. The position appears to be that the Federal Government is prepared to spend £10,000, and the shippers about £20,000 in meeting losses incurred in shipments more or less of an experimental and semi-commercial, or trial nature. This will be cheerfully undertaken in the spirit of enterprise with the primary objective of ascertaining the conditions necessary for the safe and satisfactory transport of citrus from Australia. I would raise the question:—

### Will This Policy Attain Its Objective?

Elsewhere I have shown that the problems of fruit transport are centred chiefly in phenomena of maturation. This must be clearly understood. A young fruit developed from the ovary of a flower, grows in size and increases in bulk, until it attains maximum dimensions.

At this stage it is stocked with food substances of various kinds, which

then undergo a slow and regulated series of chemical interactions, which are collectively termed "the process of maturation." In this process the fruit passes through a corresponding series of stages which are denoted by the vernacular terms, "full-grown," "under ripe," "immature," "ripe," "prime," "perfection," "over ripe," "wasty," "unmarketable," "diseased," "rotten," etc., etc.

The basis of successful fruit storage and transport is the intelligent control of the velocity of maturation, and the organisation of commercial procedure in conformity with the fundamental laws of this process. This subject has been much confused by the complexity of factors introduced in commercial practise, and which have not been thoroughly understood. In order to provide a clear conception of the phenomena the writer suggested the term "Maturation Spectrum," and introduced the idea of a "Maturation Constant" for each variety of fruit.

All varieties will pass through the same fixed points in the "Spectrum" of the species, but at different times and at different rates. It becomes possible, therefore, to define the exact condition of a fruit by reference to its position in the "Spectrum," and to study the influence of external conditions in terms of the "Maturation Constants." This has made it possible to formulate concrete laws governing the phenomena; for instance, the important temperature relation developed in connection with Apple transport:—

$$^a M_t^b = M_0 e^{-kt}$$

which states that the time period required by a given variety to pass from a point (a) in the "Spectrum," to a point (B), at any given temperature ( $t$ ) is a definite function of the corresponding period in the standard "Spectrum." Such a law dissipates empiricism and conflicting authority which has so long confounded the subject.

Temperature influence in storage and transport has long been made a fetish, whilst other factors, equally important, have not even been recognised.

Each factor influencing the end result must receive separate critical investigation. Yet in commercial practise, wide and sweeping generalisations have been made, founded on erroneous conclusions, based often upon actually inaccurate records of temperature differences of only a degree or two F.; all other factors being omitted from consideration, omitting

even the very nature and condition of the fruit itself.

Fruit export trade at the present day is founded on such a chaos of misconceptions, inaccuracies and prejudice.

Is it reasonable, therefore, to expect the policy of trial shipments under Government guarantee to yield the results so confidently anticipated? Will the problems be solved? Will transport risks be eliminated, and the way thus paved for safe expansion into wider commercial exploitation of overseas markets?

The writer is inclined to answer in the negative. Consider our experience in the transport of Apples.

For nearly thirty years we have exported Apples. What have we learned of the business? Losses in transport are still incurred from time to time, and quite recently reached such alarming figures as to actually threaten the stability of the trade. After nearly thirty years' experience we must confess a very profound ignorance, which has involved our producers in losses of hundreds of thousands of pounds sterling. We cannot blink at these facts.

What justification exists, therefore, for the assumption that after the expenditure of some £30,000 to cover initial losses in citrus shipments, that from this method of trial shipments will be evolved a satisfactory system of transportation? We have little grounds for such faith. This policy will inevitably result in loss. It is actually anticipated and provided for. The empirical data derived from the more or less accidentally successful shipments, will not permit of safe generalisations to cover wider commercial expansion.

The problem must be attacked from the standpoint of fundamental principles, and not semi-commercial practise. Laboratory work should precede trial shipments. Even the most sceptical must admit that scientific investigation has actually accomplished far more in twelve months than trial shipments did in the preceding thirty years.

The relative costs are even more widely disproportionate. In the resolutions of its Councils and Advisory Boards, the fruit industry has endorsed this policy of preliminary investigation. Effect should most certainly be given to these resolutions.

Unless this critical basic work is undertaken, we shall be floundering in a sea of misconceptions; trial shipment after trial shipment will be wrecked by winds of prejudice against the rocks of ignorance.

We must sound the sea, and chart a safe course. If the actual losses were capitalised, a small fraction of the interest on such a sum alone would be ample to carry out the entire scheme of investigation which would place fruit transport from Australia on an entirely new basis, largely eliminate risks, reduce freight rates, and establish the export business on sound scientific principles.

Why subscribe to a policy involving an estimated loss of £30,000, when the interest on such a sum would be sufficient to effect an actual saving of the principle. I cannot too strongly urge the pressing necessity for critical scientific research work. We do not know nearly sufficient about our fruit.

Experimental shipments should certainly be incorporated in the general scheme of investigation. Control of these shipments should be vested in the director of investigations, to test the findings of laboratory and field experiments. Semi-commercial trial shipments could then follow on sound lines.

#### Unsuitable Shipments.

As repeatedly emphasised the problems of fruit transport are centred chiefly in phenomena of maturation. This process involves a sequence of complex chemical changes with the result that the chemical constitution of the fruit varies from point to point along the "Maturation Spectrum." This is important. It is reflected in the degree of resistance offered by the fruit to the attacks of invading fungi. It would appear that the resistance roughly varies inversely as the degree of maturity. A point is reached in the "spectrum" at which a complete breakdown in resistance becomes imminent. If the external conditions at the time favour the development of the invading organism, as conditions in the holds are likely to, then deterioration and decay of the fruit will rapidly result. On the other hand, individual fruits, under identically the same external conditions, but at earlier stages in the spectrum, will resist invasion.

Abrasions of the cuticle and skin wounds no doubt greatly influence the susceptibility to invasion; a perfectly intact cuticle being initially highly resistant to penetration by fungus hyphae. But eventually, during the later phases in the spectrum, this resistance is broken down and the cuticle becomes easily permeable.

Not infrequently consignments of Oranges are observed in which odd individual fruits in the pack, completely succumb to the attacks of *Penicillium* spp. (blue moulds), which surrounding specimens, even in the same case and in actual contact with the decayed fruit, are able to resist invasion. Large

#### consignments of Oranges

in such condition have recently been refused acceptance for transport overseas, by ship's engineers. Frequently, so prolific has been the development of the fungi that on roughly handling cases, the fungus spores have been given off in clouds. Indeed, this fact has been used by inspectors to detect cases containing such diseased fruits; each case being systematically subjected to the sudden shock of a short fall.

**Such consignments are unsuitable for Export.**

The decision of the ship's engineer

to refuse acceptance of such consignments will have the endorsement of the fruit industry in general. The reputation of our fruit on the home markets must be protected. It has been repeatedly observed that a slight depreciation suffered by one faulty consignment places a stigma on the entire shipment.

There is no question that this has repeatedly reacted upon the prices actually realised by the perfectly sound consignments which had the misfortune to be included in the same shipment. Export standards must be maintained rigidly.

The inclusion of infected consignments also increases the risk of spreading the trouble through the entire cargo, consequent upon the liberation of enormous numbers of spores. The controlling factors in this regard appear to be:—

1. Specific resistance, which is governed by, and reciprocal to, the position in the Maturation Spectrum.
2. Wounds and abrasions of the skin.
3. Hold conditions, particularly in respect to humidity and temperature, and the presence of vitally active spores.

We are dealing here with a preventable loss and the remedy is largely in the hands of the shippers themselves. This is emphatically not intended to throw the whole responsibility on the shipper and to exempt the engineer. Our fruit absolutely demands certain critical hold conditions for its safe and satisfactory transport. It becomes the duty of the engineer to supply these conditions, and of the shipowner to accept responsibility for damage induced by faulty conditions.

But we must frankly acknowledge our obligation to supply fruit in a satisfactory condition; fruit possessing the actual potentiality to carry under the conditions laid down.

#### Practical Suggestions.

In the packing of Oranges for export, particularly, greater attention must be paid to uniformity in degree of maturation. This is most important. There is a point in the Maturation Spectrum at which it is best to pick for export under a given set of conditions. "Sweating" must be investigated also; the results published and circulated for the guidance of exporters, and efforts made to standardise the process.

Handle with care: all fruits with wounds and skin abrasions should be rigorously excluded.

Not infrequently, the packing is altogether too tight. The fruits are misshapen, and cases are observed in which the sides are bulged.

Rough handling often results in actual rupture of the skins in such cases, and is then followed by invasion by parasitic fungi.

The marketing of special grades in cases of special sizes is probably sound business procedure, but a case

of standard size for the ordinary grade would greatly facilitate stowage.

Stowage is a most important factor in successful transportation. It has been observed that cases of ten different dimensions were included in one shipment, and resulted in much imperfect stowage, tending to interfere with free circulation of air through the cargo. Experimental work carried out in Australia along the lines indicated, technical supervision of trial shipments, systematic examination and technical reports of the condition of the fruit at ports of discharge, together with attention to the practical details noted above, will go far towards reducing loss in transport.

#### Hold Conditions.

When the temperative relation between time period and the Maturation Spectrum is completely worked out, we shall probably find that the Orange differs widely from Apples and Pears. The curve of velocity of maturation in response to temperature rise appear to change somewhat abruptly at a critical temperature of about 40 degrees F. It is important, therefore, that the temperature be reduced below this point as rapidly as possible, consistent, however, with the limitations imposed by the practical engineering difficulties encountered in temperature regulation on board ship.

A cargo in a satisfactory condition for export, suitably packed and stowed, should present little difficulty to any ship reasonably equipped for refrigerated tonnage.

Each ship, and each type of refrigeration equipment, introduces special specific problems. Until we know more about the factors governing successful transportation of citrus, shippers should insist upon carriage in insulated 'tween decks exclusively, and decline to ship in lower holds.

It should be easily possible to depress the temperature of the entire cargo in the 'tween deck to below the critical point (under 40 degrees F.) within four or five days from the final port of loading, and to maintain a temperature range between 33 degrees F. to 37 degrees F. for the remainder of the voyage.

There are other factors of a highly involved nature which require careful investigation, but if the fruit shipped is covered by the specification outlined above, and the conditions set out are maintained in the holds, a basis is provided for the establishment of a citrus export trade upon sound lines.

Other transport difficulties of a specific nature can be dealt with later as special cases. Working along these lines, citrus growers may confidently look forward to the organisation of a system of transport in which risks of depreciation, en voyage, are largely eliminated. There appears to be no special problem or difficulty presented.

# Cold Storage In Australasia

WHEN COLD STORAGE of fruit was in its infancy, the prevailing idea was that fruit which was out of condition would improve and keep well in cold storage. This idea has now been exploded. It is realised by the most successful storers that only fruit at the correct degree of maturity, and handled under the best of conditions, has any chance of being successfully cool stored.

The point overlooked by most fruit-growers is that fruit is a living organism, its life's function being to reproduce its kind. Cool storage is a process which simply retards its death and subsequent decay.

The fruitgrower and refrigerating engineer are now looking to science for a simple formula by which it can be easily and quickly ascertained with a fair degree of accuracy, when a certain variety is in a fit and proper condition to pick for cool storage. Under present conditions it is largely a matter of guess work, often with disastrous results to the storer.

The freezing point for distilled water is known to be 32 degrees, but the exact freezing point of Apples has not yet been definitely determined, although it is recognised to be at least 2 degrees to 3 degrees lower.

When the refrigerating engineer keeps the insulated chambers at a fairly uniform temperature, and the fruit comes out in a wasty condition, it is obvious that the fruit was not in a fit storage condition when placed in cool store.

A simple process by which growers could easily and quickly ascertain when fruit is in a proper storage condition is anxiously looked for by all connected with cold storage of fruit.

Handling and cultural methods largely determine the keeping condition of fruit in store. Any fruit that has been delayed before placing in the cool chamber or overripe fruit before storing, never regains its quality and vitality. It is also more susceptible to a breaking down of tissues after removal from store.

This class of fruit should be marketed without delay on removal from cool storage.

In many of the cool stores vacant spaces are now noticeable where the fruit has been marketed. Beurre Bosc and Winter Cole Pears should have been disposed of before now, and Josephine, Packham's, etc., placed on the market.

A keen lookout should be kept on Jonathans, and, if necessary, they should be marketed immediately.

A common mistake of fruitgrowers is to hold varieties just a trifle too long, resulting in lower returns and much loss of fruit.

The Cool Stores Conference to be held at Frankston on September 2nd and 3rd promises to be one of the most instructive and interesting yet held by the Association.

The papers prepared by the various speakers cover a wide range of cool storage subjects. The discussions will be helpful to the directors in the management of the various cool stores.

twenty-two in all with a storage capacity of approximately 700,000 case space.

**Factories Act.**—Although your association has kept in view the request for exemption of cool stores engineers from the provisions of the determination of the Factory Engine Drivers Board, the promised amendments to the Factories Act have not yet been dealt with by Parliament on account of the political situation.

**A difficult season.**—The past season was not favourable to the development of good keeping qualities. The fruit generally has not held up as well as in previous seasons, "scald" being more in evidence than usual. It is hoped that at the end of this season the experiments now being made by the Department of Agriculture, will provide a solution to the problem.

**Royal Agricultural Show.**—The Perpetual Challenge Shield donated by the association for competition amongst affiliated stores at the Royal Agricultural Show, raised keen competition at the last Show. Wantirna scored the first win. Competition is again keen for the 1924



Cold Store at Batlow, N.S.W. Capacity 16,000 cases. Photo taken after a snow fall.

## FRUITGROWERS' COOL STORES ASSOCIATION OF VICTORIA.

Annual Conference to be held on September 2nd., at Frankston.

The annual report of the Fruitgrowers' Cool Stores Association of Victoria, signed by the president Mr. Robt. Mair, to be presented at the Annual Conference on Sept. 2, at Frankston, shows that the interests of Cool Stores are being attended to. The report states:—

**Membership.**—During the year the Orchardists' Cool Stores Pty. Ltd. joined up: the Association now consists of the whole of the Co-operative cool stores, and five private stores,

Show. Judging this year will be on the point system.

**Show Kiosk.**—In view of the high premium asked by the caterer for sale rights of the kiosk at the Show, and the enhanced wholesale prices of hard fruits, the financial success of running the kiosk is remote. The association has the matter in mind hoping eventually to make it a successful venture.

**Forest League.**—The association has affiliated with the Australian Forests' League.

**Indents for Supplies.**—In accord with the decision at last meeting the association will not arrange indents for supplies on behalf of affiliated stores.

**HARCOURT COOL STORE.****New Engine Installed.**

Since the enlargement of the Harcourt (Vic.) Cool Store in 1920, the power has been supplied by a steam engine built by Thompson & Co. (Castlemaine). This was giving every satisfaction, but it was felt that owing to the large quantity of fruit stored, a second power plant, for use in emergency, was advisable. There was also an increased difficulty of obtaining sufficient firewood, even at a higher price, the annual consumption being over 2,000 tons, at a cost of nearly £900.

The engineer advised the installation of a crude oil engine, and after an exhaustive investigation of various makes, the directors recommended to the shareholders a 165-150 B.H.P. Ruston crude oil engine, vertical type, at a cost of £2,300.

This recommendation was approved by the shareholders, and the engine has been installed.

It works on the Diesel principle, firing by compression without the application of any external heat, no provision being made for the use of any preheating device under any circumstances.

The fuel consumption is guaranteed not to exceed .42 lbs. crude oil per B.H.P. per hour; and on actual test it was found that the cost of fuel for one hours run was 2/10½, as compared with 5/- for fuel for the steam plant.

As the working load is 140 I.H.P., it works out at less than 1d. per H.P. hour.

The consumption of lubricating oil is greater than was anticipated, but it is hoped to materially reduce the cost of this by the use of a centrifugal oil purifier.

It is believed that the saving in fuel cost will be sufficient to pay for the engine in eight or ten years. The steam plant will be kept as a reserve.

Several of the shareholders have agreed to finance the improvement by paying up the balance due on their shares, and thereby being relieved of payment of interest and sinking fund, contributing only to working costs.

**That Subscription of Yours.**

The management of the "Fruit World" would take it kindly if subscribers would send their remittances promptly on receipt of the account, thus assisting the "Fruit World" to carry out its policy of usefulness and service to the industry. The small sum of 30/- pays for the "Fruit World" four years in advance, and saves you postage and small remittances annually, besides saving you 12½ per cent.

Courage consists not in blindly overlooking danger, but in seeing it and conquering it.—Richter.

**PASSION-FRUIT CULTURE.****Time to Plant Out Vines.**

**PASSION-FRUIT VINES** should be planted out about September, when the ground is in good condition. If purchased the young plants should be obtained from a reliable person who has been most careful in his selection, so that risk of any hereditary weakness may be avoided as far as possible.

The Passion-vine is found to thrive well on many classes of soil—some so poor that one is led to wonder how anything could be grown profitably on it (states the N.S.W. Department of Agriculture). On the light sandstone and poorer coastal country there is no other fruit which will give the same return as this, and with proper working and heavy manuring, it is wonderful the amount of fruit that can be taken from an acre of vines. The area planted is comparatively small, and in consequence, the fruit usually commands very good prices.

Generally speaking, the vines are most productive before having attained to four or five years of age; after that period they begin to lose vigour and gradually die out, or cease to be very profitable.

A feature about the Passion-vine, however, is its habit of producing two crops per annum.

The summer crop comes in about February or March, when the market is usually well supplied with other fruits, and prices are necessarily low.

The winter crop is ready for pulling when other fruits are not so plentiful on the market. The practice of the growers has therefore, been to secure a heavy winter crop by pruning away the summer crop when about half-grown; or, generally speaking, about the month of November. This stimulates the vines to throw out fresh fruiting laterals for the winter.

**Location of the Vineyard.**

In selecting a site for the planting of a vineyard, one of the important points to keep in view is to avoid a district or situation where frosts are at all severe or of frequent occurrence in the winter; there is one thing which this vine will not stand, and that is severe frost. The Easter, winter, and spring crops are those which are in most demand, and there is a splendid market for all well-grown fruit. It is during part of this time that we have our coldest weather, and a severe frost or two would destroy the whole crop, and in all probability kill the vine back to the root.

The next point of importance is to put the land in thorough order before planting, and in places where it is very sour and deficient in lime, which it mostly is on our coastal country where the Passion-fruit is grown, it would be advantageous to give the land at least half a ton of good lime to the acre.

**To Erect the Trellis.**

The trellis on which the vines are to depend for support might with advantage be erected just before the vines are planted, as by so doing, the poles or stakes up which the vines are to climb until they are firmly fixed to the wires overhead, can be placed in the hole in which the vine is planted and the top of same secured to the wire.

In erecting the trellis, the posts should be 6 feet 6 inches long, firmly set to a depth in the ground of 18 inches, and placed at distances of about 24 feet apart, or at furthest 32 feet in the row. On the tops of these posts two strong No. 8 galvanised iron wires are tightly stretched, at a distance of 6 inches apart.

The rows should run north and south, so that the plants get sunlight on both sides. The rows are placed in the centre of the tree rows (if in an orchard, as in citrus districts), or when alone, 10 feet apart, with the vines every 12 feet in the row; thus about 363 plants are required to the acre.

The young vine is trained with a single stem up the stake until it reaches the wires, when it is allowed to throw out from two to four leaders, which are trained to run either way on the wires. As the vine puts forth further growth, the main leaders and laterals are trained along the wires.

**FRUIT TREE CONSIGNMENTS.****Queensland Prohibits the Importation of Trees affected with Crown Gall or Hairy Root.**

The Superintendent of Horticulture for Victoria (Mr. J. M. Ward) is in receipt of a communication from the Queensland Department of Agriculture, stating that the introduction into that State of any trees from any nursery in which the disease known as Crown Gall, or Hairy Root exists, or is suspected to exist, is prohibited, and any consignment of trees found to be affected with such diseases on arrival will be returned to consignors at their expense.

\* \* \*

Enquiries amongst the nursery trade in Victoria reveal that the aforementioned diseases are not known in that State.

**Appreciations.**

Griffith, N.S.W., 27th July, 1924. Enclosed please find subscription to your valuable paper, and I must add, with many thanks for valuable information received therein. J. E. B.

**Yenda, N.S.W.**

Enclosed please find my subscription to the "Fruit World" for the ensuing year. I find the paper of great value. F. W. H.

# Seasonable Spraying Notes.

## Remedies and Formulae.

Insect and Fungus Pests Must be Fought in the Spring.

**T**HE IMPORTANCE of the spring sprayings cannot be over-estimated. Fungus diseases can now be effectively attacked, whilst sprayings must also be given to fight aphis, scales, etc. The time for the first spraying against the Codlin Moth will soon be here, filling the calyx cup with poison.

Some of the pests and diseases which must now be fought include:—

**Black Spot of Apple and Pear** (*Fusicladium dentriticum* and *F. pyrinum*).—The fruit and leaves of Apples, Pears, etc., are both attacked by this fungus, circular patches being formed on the fruit, causing it to crack. Just before the blossoms open, spray with Bordeaux mixture, 6 parts bluestone, 4 parts lime, 40/50 gallons of water; or Burgundy mixture, 6 parts bluestone, 9 parts soda, 40/50 gallons of water; or Lime-Sulphur, 1 in 15. Then spray again in 10 to 14 days with Lime Sulphur, 1 in 35. Should continuous wet weather or a cold snap ensue, another spraying should be given besides those abovementioned.

**Aphis (Black and Green).**—This insect will attack Cherry, Nectarine, Plum and Peach trees, also Roses, etc., causing leaves to curl and dry up, thus injuring young shoots. For spraying in the spring or summer, use nicotine preparations or benzole emulsion.

**Codlin Moth.**—Apples, Plums, Pears, Apricots, Walnuts and Quinces are attacked by the grubs, which are hatched from the eggs laid by the moths. The moths lay their eggs in the spring, usually at the calyx end of the young fruit. It takes from 8 to 10 days for the grub to hatch, and it then eats into the core. When fully developed, the grub makes a tunnel to the outside of the Apple, eating its way through. Spray with arsenate of lead (5 lbs. paste to 100 gallons water; or powder as per directions of manufacturers). Give the first spraying directly the petals fall, getting as much liquid into the calyx cups as possible, and thereafter at intervals of from 21 to 30 days, until within 21 days of gathering in the case of early fruit, and until about the end of February in the case of the late fruit. It is necessary to spray at shorter intervals in northern districts and dry summers. Arsenate of lead can be added to the commercial tobacco extracts if Woolly Aphis is present. Destroy the fallen fruit which is affected with Codlin grubs. It is advisable to bandage trees to trap the caterpillars.

**Dicky Rice (Weevil).**—Attacks citrus trees. Spray with arsenate of lead, 1 in 25 as soon as noticed (generally early in November).

**Leaf Curl of Peach** (*Exoascus deformans*).—The leaves become puckered and discolored in the spring, and soon fall. If the trees are badly affected with leaf curl they will not set fruit. Spray with Lime Sulphur, 1 in 15 before the blossom buds burst. Excellent results have been obtained with the Burgundy Mixture over a series of years from experiments carried out at the Experiment Orchard, Blackwood, South Australia, where the rainfall averages about 30 inches per annum, the spring months being fairly wet, and often causing great inconvenience at times to the spraying operations. Even under those conditions, two sprayings with Burgundy Mixture, thoroughly applied, one about three weeks before the blossoms opened, and one at the "pink" bud stage, kept the trees free from the "Leaf Curl" fungus.

**Orange Butterfly.**—Attacks the fruit and leaves of citrus trees, and appears in early November in the warmer parts of Victoria. Spray with arsenate of lead, 1 in 25.

**Orange Moth.**—The larvae of this moth feed on leaves and young shoots of Orange trees. When observed, spray with arsenate of lead, 1-25.

**Pear Leaf Blister.**—Spray with Lime Sulphur, summer strength (1/35) when the leaf buds commence to open. Gather and destroy all affected leaves.

**Painted Apple Moth.**—Often appear when the flowers are commencing to appear, and are very destructive to fruit spurs and all young fruits. Spray early with arsenate of lead, 1 in 25.

**Red Spider, Red Mites, etc.**—These insects are very difficult to detect until much damage is done. They suck the sap from the leaves, causing them to turn yellow, and will attack Apple, Plum trees, etc., as well as Dahlias, Roses and Beans. Spray in the summer with nicotine sulphate, benzole emulsion, or pine spray. The under side of the leaves must be thoroughly sprayed.

**Root Borer.**—The grubs tunnel into the roots, and the fully developed beetles eat the leaves of Apple, Pear, Cherry and citrus trees, etc., also vines. For roots, make holes and pour in bi-sulphide of carbon, closing the holes immediately to keep in the fumes. Explosives have also proved successful. Place zinc bands and traps around stems of trees. When borers are first observed, spray trees

with arsenate of lead, using same on a warm day if possible. Place an old blanket under the trees, shake trees, then gather and destroy the borers. Root borers can be kept in check by hymenopterous (wasp) parasites. Keep orchards free from weeds.

**Rutherglen Bug.**—Extracts juices from such fruits as Peaches, Grapes, Plums, Apricots, Cherries, Apples, etc. Usually appears in summer. Nicotine spraying preparations are recommended, or as a deterrent, spray with phenyle or tar water when the bugs appear. Keep down all weeds that harbor the pest.

**San Jose Scale.**—Attacks Apples, Pears, Apricots, etc., and is very destructive. Spray just before the buds burst in the spring, with red oil, 1 in 30, or lime-sulphur, 1 in 9. If scale is very bad on Peaches and Nectarines, spray as leaves are falling in autumn with resin wash, following with the spring application of lime sulphur.

**Shot Hole.**—Attacks Apricot, Cherry, Nectarine, Peach and Plum trees. Spray with lime sulphur or Bordeaux mixture at summer strength just before the buds open in the spring; or with standard copper mixtures (on Apricot trees) in the autumn. Do not spray Apricot trees with lime-sulphur.

**Slug of Pear and Cherry.**—This is a serious pest, attacking Pear, Plum, Peach, Quince and Cherry trees, chiefly in late spring, when the foliage is young. When the caterpillars make their appearance, spray with arsenate of lead, 1 to 25. Dust trees with lime, powdered arsenate of lead, ashes, sulphur dust or sand.

**Strawberry Beetle.**—These insects do considerable damage to Strawberries in November and December. The larvae bore into the plant, and the beetle attacks the flowers and leaves. Arsenate of lead, 1 in 25 is recommended before the fruit is ripening. As a deterrent spray, use benzole emulsion.

**Thrips.**—Attacks all kinds of fruit trees, flowers and vegetables (especially Onions), and is one of the worst insect pests, very tiny. Spray with benzole emulsion, phenyle or nicotine. Apple, Pear and other fruit trees should be sprayed before the flower buds open. Thrips appear during the first summer days. Keep vegetable and garden plants well watered, thus keeping the insects in check.

**Cut-Worm Moth.**—This moth attacks Tomatoes, Grapes, Apples, Plums, Apricots, etc., also cereals such as Maize, garden plants, etc. Set poison baits of greenstuff or bran and arsenic, but be sure to keep children and domestic animals away. Spray with arsenate of lead, 1 to 25, and keep the soil around plants well worked.

**Woolly Aphis (American Blight).**—This aphis lives in hollows and crevices on the roots and limbs of trees, causing unsightly swellings, and it attacks Apple and Pear trees. Their

presence is indicated mainly by a downy appearance on the branches. Spray in summer with nicotine preparation, using considerable force to dislodge the pests from the trees.

**Anthracnose (Black Spot of the Vine).**—When the buds are about to burst, spray with Bordeaux Mixture, 3-3-40, and again after the fruit sets. Should the disease be again noticed during spring and early summer, give an additional spraying. Spray with ammoniacal copper carbonate if the disease appears just before ripening. This will not leave a mark on the fruit. This disease should be watched

an alkali spray is recommended.

**Looper Caterpillars.**—Attacks Apples and Pears when small. Some caterpillars resemble dead twigs, being hard to distinguish. Spraying with arsenate of lead, 1-25 is recommended when observed.

**Oidium.**—This is a fungus disease which attacks Grape vines. Just before blossoming, and during moist and muggy weather, dust flowers of sulphur over the vines. This disease makes its appearance at any time throughout the growing season, when weather conditions are humid and sultry. Such conditions are often

infected during the preceding summer, and infection during the spring takes place through rain falling, and in splashing from the ground to the vine, carries up the spores. The risk of infection of the disease is reduced by the absence of rain during the spring and summer months. Unfortunately, however, the over-wintering spores may retain their vitality for twelve months, thus if conditions are not favorable for the development of the disease this season, there is a likelihood of the trouble breaking out next spring if the weather conditions are favorable for the development of the fungus.



CODLIN MOTH. WHEN TO SPRAY.

Fig. 1. Too Late for First Codlin Moth Spray. Slightly Reduced.

Fig. 2. Right Stage for First Codlin Moth Spray. Slightly Reduced.

closely. The spores are ever present, being reproduced perhaps in small numbers, but given genial conditions of incubation and growth, the disease spreads rapidly, resulting in much loss of fruit. The spores can only germinate in the presence of free moisture, hence the reason of the non-appearance of the disease in very dry seasons.

Sprays of copper compounds are recommended for controlling the fungus during the summer, the first spraying to be given when the buds are bursting, and subsequent applications according to the weather conditions. The spray recommended when the buds are bursting, and up till the time that the shoots have four to six leaves upon them is known as a neutral spray. At later periods of the season

experienced during a damp spring, and after thunderstorms during the summer months, when whole vineyards may be affected. Successful treatment can be made after the disease has made its appearance upon the plant. The ploughing of sulphur into the soil has little to commend it, as it is the fumes of sulphur dioxide that kill the fungus. These fumes are liberated when the sulphur is oxidised or combined with the oxygen of the air by the agency of the heat of the sun. Better results are obtained by a light dusting of sulphur over the vines than by heavy applications to the soil as is sometimes advised.

**Downy Mildew of the Vine (*Plasmopara viticola*).**—This disease overwinters in the dead leaves that were

Once the Mycelium has entered the living tissue of the plant it cannot be reached without destroying the host plant, or at least the infected portion. It is necessary, therefore, to coat the plants with some compounds that will destroy the germinating spores; this is found in copper sprays. The treatment of the disease is preventive, and not curative.

Spray with copper mixtures before mildew appears in the region, regardless of what the length of the vine shoots may be. Repeat such spraying in an opportune manner every time the vine is in a receptive state—that is, each time that a fall in barometric pressure coincides with a fall

of temperature. Fortunately the summer treatment for both Black Spot and Downy Mildew of the vine are identical, so that the treatment against one of the fungi also prevents the other obtaining a serious footing in the vineyards.

**Shot Hole of the Apricot** (*Clasterosporium carpophilum* and other fungi).—It is generally during some wet springs that the fruit is affected by this disease, being noticed after thunderstorms during the latter part of summer. It is then too late for the infection to damage the fruit, and is confined to the leaves. The best time to control this disease is to spray with copper mixture during early autumn, giving a second spraying just prior to the opening of the blossoms.

**Scab of the Pear** (*Fusicladium*).—Spraying with either Burgundy or Bordeaux mixtures will control this disease. Generally two sprayings are given, the first prior to the flowering, and the second as the petals are falling. If Bordeaux Mixture is used, the second application may have added to it the first application of Arsenate of Lead for the control of the codlin moth. It is not safe to mix Arsenate of Lead and Burgundy, as this will result in a certain amount of burning of the young fruit and foliage.

#### General Spraying Hints.

The vats and hoses should be cleansed immediately after using, or copper sprays will injure the equipment, whilst oil emulsions may be spoilt by traces of lime, tobacco, etc.

The seasons should be watched closely, as sometimes they are earlier or later. A week's delay may mean all the difference between crops clean or infested with black spot or codlin moth.

As lime-sulphur is irritating to the hands and face, rub on vaseline or fat before spraying, or else wear goggles and rubber gloves.

#### Preparing the Copper Mixture.

The standard Bordeaux mixture is made on the following formula:—

6 lbs. bluestone, 4 lbs. lime (fresh lumpy lime), 50 gallons water. The quantities of bluestone and lime are often increased in the above ratio, the water remaining constant.

The Bordeaux mixture does not scorch the leaves like Burgundy does, which is an advantage, but this can only be claimed when good fresh lumpy lime is used. Old slaked and carbonated lime does not give best results. It is better to use a good Burgundy mixture than a poor Bordeaux. The standard Burgundy mixture recommended for general use against fungoid diseases is—6 lbs. bluestone, 9 lbs. washing soda, 50 gallons water. The bluestone is often increased to 7 or 10 lbs. with a proportionate increase of the soda.

#### Preparation of Bordeaux and Burgundy Mixtures.

It is usual to carry out the mixing as follows:—The bluestone is dissolved in one vessel. Owing to the corrosive action of this salt upon

metal, wooden vessels are recommended.

The lime is slacked and mixed with water in another vessel in the case of Bordeaux, and where Burgundy mixture is being used the soda is dissolved in the second vessel.

Usually two barrels are used, each holding about 50 gallons of water, and are set on a stand high enough up to allow the spray cart to be backed under, so that the tank may be filled straight from the barrels.

Where the bluestone solution can be made over night, the bluestone is tied in a piece of cloth and suspended just under the surface of the water. In a few hours the crystals will be dissolved. Never place the bluestone in the bottom of the water or great difficulty will be experienced in dissolving it. If time is limited, it may be dissolved by pouring hot water over it, and stirring well, adding cold water to make up the desired quantity.

When ready to spray, the spray tank is placed below the barrels, and the two solutions are run together into the spray tank, care being taken to strain the mixture as it enters the tank, and thorough stirring is necessary to form a finely divided precipitate. This mixture may be either neutral, acid or alkaline, and is tested by the means of phenolphthalein or litmus paper.

In preparing an alkaline spray, soda solution is added to the bluestone until the white phenolphthalein paper shows a faint pink tinge. By adding a small quantity of bluestone solution to an alkaline mixture a neutral spray is obtained, while a greater quantity gives an acid mixture. An alkaline mixture turns red litmus blue, whilst an acid mixture turns blue litmus paper red.

Acid and neutral sprays are quick acting, being used where immediate results are necessary, as in the case of the early spring sprays, but they are readily washed off by heavy rain. Alkaline sprays adhere longer to the plants, and are recommended for summer use on that account. They continuously release sufficient copper compounds to protect the plants from the fungoid disease.

Where large areas have to be sprayed, and the mixing apparatus is inadequate for mixing dilute solutions, stock solutions are made and diluted down as required. One lb. of bluestone and 1 lb. soda is usually added to each gallon of water to make the respective stock solutions of bluestone or soda. The operator then knows that each gallon of bluestone stock solution or each gallon of soda stock solution, contains 1 lb. of the chemical required.

Find your purpose and fling your life out to it; and the loftier your purpose is, the more sure you will be to make the world richer with every enrichment to yourself. — Phillips Brooks.

## Tasmania.

### Export and Local Trade.

### Seasonable Cultural Notes.

### New Cool Store Proposed.

**T**HE SEASON promises to be an early one. Apricots are blossoming well, and are generally ahead of previous seasons. Owing to the prevalence of shot-hole fungus last year, most growers have taken the precaution of spraying their trees with Bordeaux or Burgundy mixtures. This is applied at the "delayed dormant" stage, the Bordeaux or Burgundy mixtures being generally favored.

The winter, on the whole, has proved a good one, the rains experienced are below the average, and conditions have enabled growers to satisfactorily carry out the essential orchard treatments.

The hard frosts which were prevalent during July and August will be generally beneficial in accounting for the newly-forming larvae of many insect pests.

Indications point to a heavy blossoming of most Apple and Pear varieties, except in cases where the powdery mildew has injured or destroyed the buds.

Shipments of Apples and Pears to the mainland have slackened considerably. The quantities left in cold store would approximate 50,000 cases, and only very small parcels are being forwarded.

It is pleasing to note that in spite of the adverse season that has been experienced, the majority of growers are making every effort to retrieve their losses by energetically attacking the problems of manuring, cultivation and spraying, very little neglect being in evidence.

In a number of districts a certain amount of new planting of Apples and Pears is taking place, this mostly taking the form of an extension of established areas, varieties such as Tasmania, Crofton, Jonathan and Sturmer being favoured. Several growers are also adding to their Black Currant, Red Currant and Raspberry plantations.

### Cold Store at Port Huon.

A proposal is being put forward to erect a commodious cold store at Port Huon, capable of holding 60,000 cases of fruit.

The site will be adjacent to the wharf, so that fruit will go straight from the store into the steamer.

With the advancement of the Port Huon district, which comprises Geeveston, Surge's Bay, Castle Forbes Bay (all large producing centres) it has long been felt necessary that such a convenience is required.

Fruit would also be drawn from South Franklin and districts south of Geeveston, also a fair quantity could be shipped across from the Glazier's Bay and Wattle Grove centres on the eastern side.

Arrangements have been made for the flotation of a company with 25,000 £1 shares. Of these, 10,000 would be offered for sale, each share giving the holder the right to place three cases in store during the season.

The whole matter has been submitted to the State Development Advisory Board for approval, in order that assistance may be rendered under the Imperial Government's scheme for developmental works on British Dominions.

#### Overseas Shipments.

Details are now to hand as to the general condition of the fruit cargo handled by the s.s. "Surrey" at Liverpool last season.

A large portion of the cargo was delivered in bad condition, and was condemned by the Health Authorities as being unfit for human consumption.

The various consignees are taking united action toward recovering adequate compensation from the owners of the vessel. It is reported that the agents of the vessel have repudiated all responsibility, and have gone so far as to state the fruit must have been in bad condition when shipped. Pressure is being brought to bear in this matter to obtain a settlement. The assertion as to the condition of the fruit will not bear investigation, as such was drawn from orchards all over the State, consignments from which were loaded at the same time in other vessels and arrived in good order.

#### Limited Export Periods.

The proposals of Messrs. Geo. Monro Ltd. and other London agents for limitation periods of export from the various Apple producing centres to British markets is worthy of consideration, especially as it is reported that the Imperial Government has received such favourably.

The scheme, as submitted, seems to be a good one, and should benefit all sections of producers without penalising any one.

The suggestions are that during August and September the market be left to the English grower, October and November, English and Canadian, and from December to March 15th, inclusive, be open to Canada, U.S.A., and all other countries.

The Australasian and South African season would follow from March 15th to the end of July.

The scheme deserves the support of all sections of the industry, and should go a long way toward solving the problems of marketing the earlier varieties. It would also induce the American and Canadian grower to market his crops earlier in the season, and not to hold in store until a large quantity was over-mature and had to be dumped on the markets at ruinous prices. It was this class of fruit that came into competition with the Australian early consignments last season, and was the principal factor responsible for the low prices in depressing the markets.

#### Branding of Fruit Cases.

Now that all fruit producing States have legislation governing the containers to be used in exporting fruit, and as they provide for the use of the Australian bushel (8 2-3in. x 14 1/4in. x 18in.), which is now in exclusive use, it is absurd to continue to impose upon the fruitgrower the necessity of branding ("Guaranteed one imperial bushel") on the end of his case. This brand is made compulsory by the State of import, and the Tasmanian Department of Agriculture has approached the several States of the Commonwealth to relieve growers of the necessity of placing this brand on their cases.

A favourable reply has been received from the Victorian Department, and it is to be hoped that other States will fall into line.

The policy to-day should be to remove all useless branding and reduce such to a minimum necessary to cover the growers' name or registered brand, and denote the nature and quality of contents.

It is noteworthy that since the

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Commonwealth Government fixed the sizes of cases to be used in export overseas, the necessity for placing the guarantee as to contents, viz. (one bushel of Apples) disappears. Branding costs money, and this is one of the small items that help to bring down the costs, and which in this case is now quite unnecessary.

#### Assistance to Orchardists.

Fruitgrowers are generally appreciative of the action of the Tasmanian Government in bringing in a Bill to give assistance to those orchardists who are seriously embarrassed in respect to providing manures, sprays, etc., for next season's crop by reason of the abnormal climatic conditions experienced last year.

Approximately 170 to 180 orchardists have availed themselves of the offer, and have filed their application. The loan will extend over three years, and will carry 6 per cent. interest.

It is estimated that £8,000 will cover the advances necessary to the

most necessitous cases, and will be the means of helping them to carry on until next season, ensuring that essential operations are carried out toward the production of their crops.

#### ORCHARD NOTES.

Owing to the abnormal climatic conditions which were experienced during the past year and the consequent development of fungus diseases attacking fruit trees, fruitgrowers will have to take every precaution this coming season to combat re-infection, as the risks from the "carry over" spores will be experienced to a greater degree than following upon a dry period with clean crops.

The growth of all fungi is largely controlled by the weather. When dry conditions obtain, with a low rate of humidity the development is arrested and is the general explanation in many instances where untreated trees have often borne clean crops of fruit.

The most important factor in controlling or preventing infection is by efficient spraying. This is recognised throughout all the principal fruit centres of the world and the treatments recommended are based on the results of careful experiment extending over many years.

The fruitgrower in Tasmania cannot afford at any time to gamble on the climatic conditions which are often anticipated. The risks are too great. Spraying should be regarded as a premium for insurance against infection, and is as necessary as the cover which every business man effects against fire or other risks."

#### Black Spot.

Following a normal season an application of Bordeaux (4/4/40) or Lime-Sulphur (1-25 at 33 degrees Beaume test) at the "pink stage," with weaker sprays if necessary when the fruit has set, will give control of this disease.

Under the conditions that will be generally experienced it is advisable this season to make an additional application before these at the "delayed dormant" period. This should be the Bordeaux mixture (4-4-40), and will assist to prevent infection from the first stages of growth.

#### Powdery Mildew.

The past season has also been conducive to this disease, and the susceptible varieties such as "Cleopatra," "French Crab," "Jonathan" have been much affected.

The principal method of control is by means of sprays having a sulphur basis. These have proved efficacious against all mildews, and should either be applied as Atomic or Atomised Sulphur (1 lb. to 12 gallons) or Iron Sulphide (3 lbs. Sulphate of Iron, 1 gallon Lime Sulphur to 50 gallons of water).

Prosperity is a great teacher, but adversity is a greater. Possession pampers the mind; privation trains and strengthens it.—W. Hazlitt.

# The Grafting of Fruit Trees and Vines.

## Seasonable Operations in the Orchard and Vineyard.

### Strap, Cleft, and Whip Grafting.

**G**RAFTING is usually performed in the Spring, about the time the buds begin to swell, and continues until the tree or stock is about to break into leaf. Some varieties of fruits are better grafted in early spring, before the buds have swollen to any appreciable extent—the Persimmon, for example. Thus

writes Mr. W. J. Allen, Fruit Expert to the N.S.W. Department of Agriculture in Bulletin No. 63, entitled "Orchard Nursery Work—Budding and Grafting."

The grafting of many varieties of vines and trees is used in preference to budding, and old trees are often top-grafted in preference to being budded, as, by inserting grafts in the branches close to the trunk, many of them will grow if properly put in; and, should any fail, a young shoot may be allowed to grow, and later on a bud inserted.

There are several methods of grafting practised, but the whip-graft finds

mentioned will answer for all practical purposes.

**Scions.**—These should be taken from good, healthy, bearing trees, and the best wood with which to work most varieties is that of the previous summer's growth. In the case of Peach scions, it might be advantageous to use those which have some two years' growth at the base end. The young growth is soft and pithy, and there is a chance that not many of the grafts will start; consequently, old Peach trees are usually cut back in the winter and shoots are allowed to grow during the summer, into which buds are inserted the following February.

**Whip-grafting.**—This is the most popular method of working over all kinds of nursery stock; and stock in which dormant buds have failed are usually worked in this way. Root-grafts are also put in by this method. For instance: small pieces of Northern Spy Apple roots are often cut up into lengths of about 4 inches and grafted with scions of the Northern Spy. These take very readily, and by the fall I have seen them make a



Fig. 1. Scions ready for strap-grafting.



Fig. 2. Strap-grafting; scions tied and ready for claying.

most favour with growers of small stocks. Cleft-grafting for old Grapewines is largely used, and at times for working over old fruit trees, particularly Pears, Apples, Plums, etc. Strap-grafting, which is another method of bark-grafting, may be used for working over medium to large sized old trees; and for this method splitting the limbs is not required, but the scion is thrust down between the bark and the wood, and a strip of bark, supported by a thin strip of sap wood, is carried across the top of the wood to be grafted, and inserted under the bark on the further side, as shown in Fig. 3. There are several other styles of grafting, but those above



Fig. 3. Strap-Grafting; the scion in place before being tied.

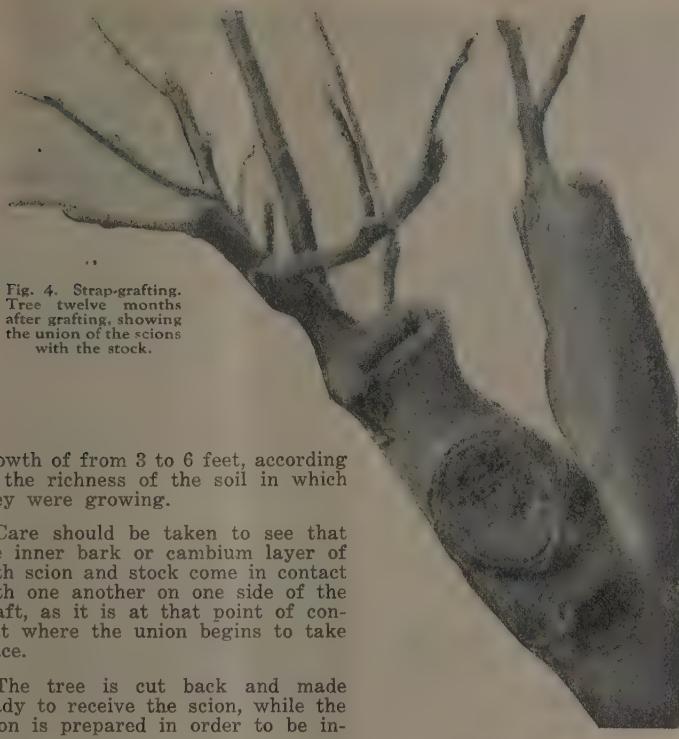


Fig. 4. Strap-grafting. Tree twelve months after grafting, showing the union of the scions with the stock.

growth of from 3 to 6 feet, according to the richness of the soil in which they were growing.

Care should be taken to see that the inner bark or cambium layer of both scion and stock come in contact with one another on one side of the graft, as it is at that point of contact where the union begins to take place.

The tree is cut back and made ready to receive the scion, while the scion is prepared in order to be in-



Fig. 5. A grape-vine scion prepared for cleft grafting.

serted in the stock. The top of the tree is cut off, and a smooth, sloping cut upwards of about 2 inches long is made within a few inches of the root. A cleft is made in both stock and scion, and they are now ready to be joined together by inserting the tongue of the scion into the cleft of the stock and forcing them into place. The union is then wrapped with waxed cloth, the same cloth being used for these as for budding.

When performing a bark graft the scions are cut in precisely the same way as for the whip-graft, only there is no cleft made in them. The bark of the tree is split about 2 inches down, and loosened at the top sufficiently to allow the pointed end of the scion to enter. It can then be pushed down without loosening the bark much with the knife, if the tree is in condition for grafting in this way. This style of grafting is best done

late, when the sap has begun to flow, and the bark is loosening from the wood. After the scions are put in, they require to be wrapped tightly with either cord or strong waxed cloth, and then the whole top, as well as around each of the scions, should be painted with grafting-wax to exclude the air.

Strap-grafting is another method of bark-grafting, but is a somewhat slower process of re-working trees, as it takes a little longer to prepare the scion and also the stock to receive the scion, which must be made perfectly smooth and even after the limbs have been sawn off. To accomplish this a large pruning-knife or a small spokeshave, or some other sharp implement, must be run over the sawn surface to make it perfectly level. In order to make a good fit, the outer edge of the limb where the scion is bent over the top should be slightly rounded. It will, therefore,

be seen that by this method it will take somewhat longer to prepare the tree to receive the graft than by the bark grafting method, but it is claimed that cuts on trees worked in this way will heal more readily, and that the grafts withstand heavy winds better than will the common bark graft.

When one is grafting, budding, or pruning, all tools which are to be used should carry a keen edge, otherwise the work cannot be properly and expeditiously carried out.

Fig. 1 shows scions ready for inserting in the tree. It will be seen that one side of the scion is much longer than the other. This long piece is to extend over the cut limb, and part of it is inserted under the bark of the limb on the opposite side, while the short end is slipped under the bark directly under that portion of the scion on which the buds can be seen.

Fig. 3 shows the scion in place preparatory to being tied with raffia.

Fig. 2 shows scions inserted in stock and tied with raffia ready for claying.

If desired, the grafts may be well packed around with clay. The latter takes the place of grafting wax, which is used by some, and which prevents the air from penetrating the cut parts of both scion and stock and the consequent drying out. Whenever this work is faithfully performed, there is very little danger of the

grafts not taking; and the points to be remembered are:—

1. The stock and scion should fit perfectly.
2. The limb in which the scion is inserted should be tightly bound with raffia as shown in Fig. 2.
3. The whole should be carefully covered with a ball of clay, tightly packed around the scion and cuts in the limbs where the scions are inserted, so as to exclude the air.

Young Apple or Pear trees, it will be found, are easily worked in this way; but Peach trees will be somewhat harder to graft, and it is not uncommon to find a fair percentage which do not live.

Fig. 4 shows a tree twelve months after being grafted by this method. The union of the scion with the stock can be plainly seen.

**Cleft-grafting.**—Trees are worked in precisely the same way as the Grape vine, except that the latter is grafted just even with or a little below the ground, while the tree is usually worked close to where the main branches leave the trunk. These limbs are split, and the scion made wedge-shaped with the outer edge a little thicker than the inner one (Fig. 5), so that the stock will hold it firmly at the point where the union must take place. It is as well to have one bud of the scion just above the



Fig. 6. Vine after being cut off, ready to receive the scion.

wedge-shaped portion. From two to four buds are quite enough for any scion. After the two scions have been inserted, it is as well to tie the stock tightly, and then cover the split between the scions with waxed cloth, after which the stock, where cut off, and the tips of the scions, as well as the wedge-shape part of the scion on the outside, must be well waxed over, so as to exclude the air and prevent it in any way coming in contact with the scion, or that part of the stock adjoining the scion.



Fig. 7. A grape vine with grafts in position.

The stock is actually in a hole made by throwing back the earth. When filled in again the soil reaches to the top bud of the scions,

#### Grafting-wax.

The following is a good recipe for preparing the wax, the chief object of which is to exclude the air from the cuts on both stock and scion, and in this way to prevent the scion or the wood of the stock with which it comes in contact from drying before the union is effected. The wax should not be made so hard that it will crack after being applied:—4 lbs. of resin, 2 lbs. of beeswax, 1 lb. of mutton tallow. Dissolve over a slow fire, and apply warm with a small brush. If it is found necessary to apply this with the hands, it is best to keep them well greased, so as to prevent the wax from sticking to them. The following is another formula:—1 lb. beeswax,  $\frac{1}{2}$  lb. resin,  $\frac{1}{2}$  pint boiled linseed oil.

#### Re-working Old Trees.

For reworking old Peach trees:—

When cutting back Peach trees of this description be careful to wait till the buds are swollen before starting

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the work. We have found that by cutting back too early in the winter the bark dried out and shrivelled a good deal, and there was not such a strong burst of young wood. When cutting back trees in this manner, it is a good plan to whitewash the butts and limbs, or else cover with straw or sacking, so as to prevent sun scald.

#### COVENT GARDEN STRIKE.

Cabled advices from London state that there was a strike of employees during August at Covent Garden, and that later, the Stratford and Spitalfields borough markets also became involved. Consignments of Australian and South African orchardists became disorganised. Employers made prompt arrangements to distribute the supplies, sending salesmen by motor car, train and aeroplane to establish district centres to which the growers could send their produce.

## Editor's Mail Bag.

### APPLE TREE MILDEW.

#### How to Check a Serious Disease.

The Editor "Fruit World,"

Sir:—Reading through your articles on spraying supplied by "Fruit World" subscribers, I notice that no mention is made, and no advice offered as to treatment of the disease known as Apple-tree mildew, (*Podosphaera leucotricha*). I do not think that growers realise how serious this disease is; if they did, I feel sure that they would make every effort to stamp it out in its infancy.

This disease is very widespread throughout Britain, where it proves most injurious to full-grown trees, covering the tips of the twigs with a dense white meal, presenting the appearance of having been dredged with flour.

The disease prevents further increase in the length of shoot. This while appearance is due to the presence of the oidium or conidial condition of the fungus, which is directly the cause of injury.

Apple-tree mildew over-winters between the bud-scales, and is thus capable of reproducing itself from year to year.

The only method of eradication is to cut away all diseased tips at least two buds below the point where the fungus is present. In addition to this, trees that have carried the disease, also neighbouring trees, should be sprayed in the early spring when the buds begin to swell and before any growth takes place, with half-strength Bordeaux mixture or with lime-sulphur wash, the lime-sulphur for preference.

Some growers use Atomic sulphur for this disease. Lime-sulphur will give the best results if used at the proper time, and growers should remember that it is no good spraying once the disease shows out on new growth, the only remedy then being to use the secateurs. George Clift.  
Batlow, N.S.W. 13/8/24.

### PEAR TREE TROUBLE.

#### Woolly Aphis on Roots.

The Editor "Fruit World,"

The trouble on my young Pear trees about which I wrote twice previously, has proved to be due to Woolly Aphis. I brought some specimens to one of the scientific experts of the Agricultural Department, and he pronounced it to be ordinary Woolly Aphis. I decided that I was not going to undertake a campaign against Woolly Aphis in the ground, and the Pear trees are now all uprooted and Apples in their place.

As the trouble is fairly widespread I thought this experience might interest many of your readers.

Yours,  
J. P. Bainbridge.

### VICTORIAN FRUIT IN QUEENSLAND.

"Cheek" Packing is Better than the "Flat."

That there is a good market in Queensland for Victorian fruits—Apples, Pears, Lemons and Oranges—is the opinion of Mr. Basil Krone, Fruit Packing Instructor of the Horticultural Division of the Victorian Department of Agriculture, who visited Brisbane in August in charge of the exhibits of Victorian fruits at the Brisbane show.

Mr. Krone writes:—

Whilst in Queensland I am paying particular attention in noting the condition and appearance of our Victorian fruit as it arrives on the Brisbane markets, also the packing and grading, etc., and feel it my duty to advise our growers that those who are packing their Apples on the "flat" diagonal system instead of "cheek" diagonal are, in most instances, losing money for good fruit damaged in transit and nailing down.

I have been in Queensland three weeks now, and have not been able to find a case that is packed on the "flat" that didn't have bruises or dents on the cheeks of the fruit.

The cause is easily understood, because, in order to make this pack firm, the fruit must be brought much higher in the case than is necessary with the "cheek" diagonal system; also the full cheek of the fruit comes in contact with the side of the box instead of that small hard portion near the eye of the Apple, as is so when the "cheek" diagonal system is used.

In one instance at the Brisbane Royal Show, for my information, 130 cases that were packed last March by pupils of packing classes in this State on the "cheek" system were opened, and as far as the packing and grading were concerned, the fruit was without blemish, whilst one consignment of Victorian Apples that were sent to be exhibited had to be sold, as no fruit could be found that did not have the cheek damaged.

Another great trouble was loose packing, which caused most damage of all.

On the other hand, some consignments of Victorian Apples and Pears opened in beautiful condition, the fruit being as firm and snug as when it left the orchard in Victoria. I would like to bring these matters before our fruitgrowers because the fruit is in perfect order when it leaves our Victorian orchards, and the damage apparently occurs in transit, hence my reason for pointing out the above, and as the remedy is an easy one, I would recommend the "cheek"

diagonal system as the highest possible aim in the safer carriage of our Apples over long distances.

I would also recommend the use of a very thin layer of wood wool or corrugated cardboard on the top and bottom of the cases. I also noted with interest that some of the agents and buyers already knew certain packs and brands of our growers by their reputation, and even knew by the pack the quantity of fruit in the case, although it was not marked on the cases.

Upon investigation, however, I found things not quite the same with "flat" packing. There were also a few instances where fruit would have sold to better advantage had they been graded. Good markets exist in Queensland for our Apples and Pears, particularly from second week in April and onwards. The Queensland Apples and Pears at Stanthorpe would then be finished, and there would be a better chance for southern growers obtaining good prices. (Deciduous fruits are cleaned up here about that time on account of the fruit fly.)

The citrus season is finished here in September-October, and quantities of Lemons are imported. If growers developed any trade here with Lemons, the fruit should be cut from the tree (not pulled), cured, wrapped in tissue paper, and diagonally packed in "dump" bushel cases.

A market for Oranges may be worth investigating; the fruit to arrive here not before the end of September, when Queensland Oranges would be finished, these would require to be cut from the trees, sweated, wrapped in tissue paper and diagonally packed in "dump" bushel cases.

The Editor, "Fruit World."

Sir,—In the August issue of your journal I notice a statement to the effect that our Banana sales manager is in receipt of a salary of £750 per annum. This statement is incorrect.

—Yours, etc.,

W. RANGER,  
Manager, Committee of Direction of  
Fruit Marketing.

Brisbane, 12/8/24.

[This item, among several, was included in the notes sent by our Queensland correspondent last month. Should the word "approximately" have been added?—Ed. "F.W."]

### NEW SUGAR BOARD.

#### Fruit Industry Should be Represented.

Serious consideration is being given to the suggestion made by Sir Henry Jones that the new Sugar Board should include representatives of the southern fruitgrowing and jam manufacturing interests.

### ACKNOWLEDGMENTS.

The Editor desires to acknowledge the following:—

Letter from a South Australian subscriber urging a reduction in the price of Dried Fruits.

Report and balance-sheet of the Shepparton Orchard Products' Ltd. Successful year: 35,000 cases of fruit handled. New packing shed built.

Letter from Hewitt & Browne, Tyagarah, Brunswick River, N.S.W., re Bunchy Top in Bananas.

Report of Western Australian Railway Commissioners' successful efforts in advertising fruit.

Further correspondence from "Salesman" re the sugar and fruit industries.

Letters from South Australian Fruitgrowers' Association re fruit juices, and protesting against the use of synthetic compounds.

Article, "Australian Primary Industries," by E. Naughton, General Secretary South Australian Fruitgrowers and Market Gardeners' Association.

Report of the April meeting of the National Federation of Fruit and Potato Trades' Associations.

Report from Mr. Chas. E. Howship, Perth, W.A. (representing Swann & Co., London) re Australian Grapes in England.

Report from Mr. C. W. Mally, Senior Entomologist, S. African Department of Agriculture, re methods of fighting the fruit fly.

Further report from Mr. F. W. Wakefield, written from Suez, re transport of citrus.

### FIJI BANANAS.

#### Successful Shipment to Melbourne.

Fiji Bananas are again appearing in Melbourne, despite the duty of 1d. per lb. A shipment of 400 bunches and 170 cases arrived in Melbourne per s.s. "Suva" during August. The importers, Man Hop & Co., state that buyers are attracted by the Fijian article which ripens better than the Queensland product. For the latter the price was 28/- a case, for Fiji, green, 30/- a case, and ripe about 32/- a case.

### ROYAL AGRICULTURAL SHOW, MELBOURNE.

The conducting of Agricultural Shows in the several States is of untold value to the community generally, educating the city dweller in regard to the importance of the country industries, and at the same time giving country residents the opportunity of inspecting the latest labor-saving mechanical devices.

The Royal Agricultural Show, which is to be held at Melbourne from September 18th to 27th, is of unusual interest this year. Fruitgrowers from Victoria and the other States will be attending in large numbers. The fruit sections are well catered for, and, in addition, the various machinery and other exhibits make up a display which is of exceptional educational value.

## Canned and Preserved Fruit Department.

### NEWS AND NOTES.

#### THE SUGAR POSITION AS IT AFFECTS THE FRUIT INDUSTRY.

A correspondent, who does not desire his name published, but who signs his name "Salesman," writes in answer to the address on the sugar question given by Mr. R. E. Boardman, A.F.I.A., before the recent Australian Conference of Fruitgrowers in Hobart.

"Salesman" admits that the concluding suggestions in Mr. Boardman's paper are good, but differs on some points in the address.

[This correspondence was held over from previous issues on account of pressure on space. We have also had to regrettably condense "Salesman's" letter. For the sake of ready reference we have numbered the paragraphs.]

"Salesman" writes:—

(1) (a) Although a considerable sum of money was spent last year on propaganda by the Australian Sugar Producers' Association, none of the money was contributed by the sugar refiners.

(b) The request for an increased duty on unrefined sugar came from an organisation representing Queensland growers and millers, but excluding the C.S.R. Co.'s mills.

(2) Australia bought several expensive cargoes of sugar in 1920, but not "at the top of the market." With the exception of three cargoes all foreign sugar required was bought without Government interference by the Colonial Sugar Refining Co., an admittedly businesslike concern.

(3) War contracts inflated the exports of jam and canned fruit. The 1918/19 exports of jam were 79,000,000 lbs., falling to about 6,000,000 in 1921/22, and about 4,000,000 in 1922/23, but in no pre-war year did the total export reach 2,000,000 lbs. The present export trade in jam, and especially canned fruit is much greater than the pre-war figure.

(4) It was stated that the "uncertainty as to when sugar prices would fall rendered it not a business proposition for jam to be prepared." However, at the beginning of the two last jam seasons, during which the only falls in the price of sugar took place, the Commonwealth Government promised in advance, and before any fruit was processed to pay jam manufacturers a rebate equal to the reduction in sugar prices; the money thus paid amounted to about £51,000, which was passed on to the distributors and the public through reduced prices.

(5) Although several small jam and canned fruit factories went into liquidation, the causes were almost entirely unconnected with sugar.

(6) The price of sugar cannot be such a damaging element to the fruit industry in view of the enormous sales of canned fruit in Australia during the last two seasons—from 100 per cent. to 200 per cent. increase. The bounty of 9d. per doz. tins was very helpful, but the sugar content is immaterial, viz., 3d. worth in a 30oz. tin, the retail price of which is 11d. to 1/2.

(7) Jam manufacturers are independent of the import duty in their Australian trade. Unless over-capitalised these factories should be able to profitably exist. The largest of these recently declared their usual 12½ per cent. dividend, after placing exceedingly large sums to reserve.

(8) The price of sugar is almost double the pre-war amount, because the production costs have increased by 100 per cent.

(9) The inadequate returns to fruit-growers are due to gross over-production (a) because growers wrongly assumed the abnormal war export would continue, and (b) the lack of foresight by State Governments and repatriation schemes.

(10) It was stated that much sugar production is in the hands of thrifty Chinese and Italians. The law of Queensland, however, expressly prevents the holding of any sugar land by Asiatics, and only 5 per cent. of sugar farmers and 10 per cent. of the cutters in Australia are Italians.

(11) The present price of sugar is not "arbitrarily" fixed by the sugar industry. It is determined by a tribunal which based its decision on the cost of efficient production in average seasons and districts. Instead of the fruit industry being under a disadvantage, the price of refined sugar for processing fruit was reduced £1 7/- per ton below the prices charged to other manufacturers. Further, exporters are always paid a rebate to reduce the Australian sugar cost to the amount at which foreign sugar could be landed in Australia and refined at the date of exportation.

(12) Some time ago it was announced in the Commonwealth Parliament that, whilst no public money had been paid to sugar producers, some £213,700 had been paid to exporters on the sugar contents of shipments of jam and canned fruits during the whole of the sugar control period; moreover, over £51,000 had been paid to manufacturers on the sugar contents of jams and canned fruits in stock in Australia when sugar was reduced on 1/11/22 and 22/10/23. A very large sum was also allowed on stocks of sugar held on 1/11/22. Other notable concessions to the fruit industry are the £600,000 contributed by the Government to the 1921, 1922 and 1923 fruit pools, and the £139,000 paid in production and export bounties this current year.

(13) The sugar industry is magnificently organised from top to bottom, and, as you say, the fruit industry would gain enormously by some such similar organisation, defining grades and qualities and offering unitedly all fruit produced to factories and other consumers. This would probably necessitate compulsion of unwilling growers, which although successful in operation in Queensland to-day, might be much more difficult to bring about in the southern States.

(14) I agree with your view that jam and canned fruit manufacturers are entitled, while the embargo continues, to be supplied with Australian mill-white sugar, provided the manufacturers can make fair and business-like arrangements for definite quantities in advance with the Queensland Sugar Board. This would result in a saving of £3 or even £4 per ton. If the interested parties could go into this matter with the Sugar Board, some suitable arrangement might be arrived at, but the proposition is not so easy as it looks, as the manufacture of mill-white sugar, especially during a busy crushing season, presents almost insuperable difficulties to the raw sugar miller.

(15) Similarly the Sugar Board might be persuaded to allow manufacturers to declare themselves on the foreign parity each season, when they deem that parity to be at its lowest. Then such parity, plus any necessary adjustments, would be the figure at which Australian sugar would be supplied to the manufacturer for his export trade during the whole season. This would appear to be a more equitable system than the present, whereby the manufacturer gets an export rebate reducing his sugar costs to the parity obtaining at the date of shipping the manufactured goods.

#### Reply by Mr. Boardman.

In my paper at the Hobart Fruit-growers' Conference, I endeavoured to deduce major facts, pointing out constructively methods of relief from the unsatisfactory position as regards sugar.

"Salesman" agrees largely with the findings though he disputes some of the evidence. He admits the justice of the claim that "millwhites" or unrefined sugar should be made available for fruit processing. Yet this very point has been most strenuously opposed by Queensland sugar propagandists. Also, he admits that the present system of assessing the world's parity for sugar is inequitable.

But as regards the points raised by "Salesman," I would like to deal with them individually. His arguments are unsound, as I will show.

Two questions were put by correspondence to "Salesman":—

(1) How long had he been a reader of the "Fruit World?" and (2) In his

opinion had the fruit industry suffered by sugar control; if so, to what extent? The reply came to hand:—

(1) That the "Fruit World" was an excellent paper, and (2)—Unanswered.

Both leading questions were avoided. This brings us at once face to face with the actual position. Arguments and statistics may be quoted by the mile, but he is wrong who says that the fruit industry has not been hampered by sugar control. And if hampered, to what extent? We say, in all seriousness, that grievous harm has been wrought. The sugar industry has been given preferential treatment, to the detriment of the fruit industry.

Now for the points raised by "Salesman":—

(1) The sum of nearly £4,000 was spent in propaganda by the Australian Producers' Association. "Salesman" defends the refiners. We do not desire to single out any particular branch of the sugar industry for undue censure, seeing that as a whole the industry has shown great capacity in attending to matters affecting its welfare.

(2) Sugar could have been purchased at much lower prices than were paid if it had been bought at the right time, and at which time the Government was asked by manufacturers to be allowed to purchase their own requirements.

(3) The high price of sugar affects not only the export trade, but the local consumption as well. "Salesman" overlooks the slump in local trade, yet surely a drop of 33 1/3 per cent. in jams and canned fruits exported in one year is a serious position? Normally, one would expect a steadily increasing business all round, which would happen if trade were unfettered.

(4) The Government did not give its assurance to pay a rebate on sugar content of jams until long after the fruit season had opened, and some considerable time after the manufacturers' position had been placed before the Government. The £51,000 referred to was more than paid back to the public when manufacturers reduced their prices.

(5) I admitted there were other factors, but "Salesman" minimises the sugar factor. As a matter of fact, sugar played a very important part, as the factories concerned were caught with big stocks of jams and pulps, and the sales of jam were much curtailed on account of the high price that had to be asked, brought about by the high sugar cost. The concerns involved were not so "small" either.

(6) This is really answered by "Salesman's" own paragraph No. 12. The big losses made by Government pools allowed canned fruits to be sold at under cost, which naturally increased the consumption. Private enterprise could not stand such losses and remain in business.

(7) If "Salesman" refers to Henry Jones Co-operative Co. Ltd., his information is astray. Reference to their balance-sheet shows that the dividend was 10 per cent. from income earned in Australia, and 2½ per cent. from income earned outside Australia, and a large portion of the Australian income was earned through trading in lines other than jam and canned fruits. Such other include shipping, timber, hops, etc.

(8) Yet all branches of the sugar industry have been guaranteed fair profits. Is not that "favored" treatment? Other industries, including the fruit industry, have to stand current economic conditions.

(9) There is room for debate on this subject. "Salesman" has not said "the last word." Admitting, as I did, that there are other factors which caused the depression, I reaffirm that it is folly to overlook or minimise the sugar factor.

(10) My reference to this was a passing one only. See paragraph at close of this article.

(11) The rebate on export mentioned does not give the world's parity, as only recently the price for export sugar to Californian canneries was £22 3/4 per long ton, as against the Australian price of £37 less £1 7/- mentioned by "Salesman," and less a further £7 13/- (which only came into operation on the 1st June). With the export rebate the nett price was £26, or a difference of £3 16/8 in favour of California. The export rebate is not fixed so as to make up to manufacturers the advantage which they could have obtained by buying sugar in the open market.

To show how the export rebate works, we quote the following fluctuations:—

In January last, the export rebate was 13/-, in February £1 13/-, in March nil, in April 13/-, in May £4 13/-, in June £7 13/-. As a business man and a seller of goods, "Salesman" will realise that it is not a practical proposition for traders to be continually altering their export price list. As the price list remains constant, traders are faced with a loss where they based their prices on an estimated (and justifiable) rebate of £10 per ton.

(12) We should define terms here. Whilst no "public money" may have been "paid" to sugar producers, what of the Customs duty of £6, and later £9 6/8 per ton? What is the difference between this and dipping into the public funds for the benefit of sugar producers. Prior to the embargo all manufacturers were allowed a "drawback" on sugar contents exported. When no sugar was exported the "drawback" ceased. Then it was that the "rebates" on exports came tardily into operation. The £51,000 received by the public and the losses on pools have been previously referred to. "Salesman" cannot get into his mind the deathly grip on enterprise brought about by sugar control.

(13) "Salesman" must have read my article hurriedly. I did not suggest the sugar industry was "magnificently" organised, nor that the fruit industry would gain enormously by "some such similar" organisation. I repeat there are too many generalities in speaking about the "fruit" industry. The different sections have totally different needs.

(14 and 15) It is good to know that some of the suggestions made are considered workable—in fact, in the foregoing and other correspondence, "Salesman" has shown tolerance and good feeling, which is reciprocated, and I believe an intensive study of the difficulties under which the fruit industry has suffered would convince him and others of the very real justice of our claims. We need to deal with major facts, and not to be side tracked into profitless "arguments."

It is to be hoped that representatives of the fruit industry will be appointed to the Sugar Board.

#### ITALIANS IN QUEENSLAND.

##### English Language Futeile.

So many Italians have crowded into one district in Queensland that the promoters of the campaign against hookworm have found it necessary to issue notices in the Italian language.

Dr. Cumpston, the Director-General of Health, stated that Italian was the only foreign language to which the Department had found it necessary to resort.—"Evening Sun," Melbourne, 18/6/24.

#### CANNED FRUITS BOUNTIES.

##### £54,000 Paid to July 31.

A statement relative to the bounties on production and export of canned fruit (under the Canned Fruits Bounty Act) was tabled in the House of Representatives on August 6 by the Minister for Trade and Customs (Mr. Pratten). The total paid to July 31 amounted to £54,256 9/8, being distributed as follows:—

Australian Jam Co. Pty.	
Ltd., Melbourne	£8,736 13 7
Bendigo Preserving Co.	
Ltd., Bendigo	546 8 8
Geelong and Western District Preserving Co.	
Geelong	225 10 2
Hoadley's Pty. Ltd., Melbourne	4,929 15 1
Kyabram Co-operative Fruit Preserving Co.	
Ltd., Kyabram, Vic.	3,117 19 2
Rosella Preserving Co.	
Ltd., Richmond, Victoria	2,924 7 3
Shepparton Preserving Co. Ltd., Shepparton, Victoria	16,590 18 10
J. Brooker & Sons, Croydon, S.A.	479 16 9
T. B. Robson & Son, Hectorville, S.A.	217 0 5

(Continued on next page)

H. Jones & Co. (Sydney) Ltd., Sydney .. . . .	2,359	8	6
W. D. Peacock & Co. Ltd., Hobart .. . . .	1,401	13	5
Stanmore Preserving Co. Ltd., Stanmore, N.S.W .. . . .	4,352	9	0
Taylor Bros. (Sydney) Ltd., Annandale, N.S.W .. . . .	1,057	0	5
Water Conservation & Irrigation Commission, Leeton, N.S.W. .. . .	3,103	2	0
John Edward Burnard, Brisbane .. . . . .	276	11	9
L. H. Butt, Brisbane .. . . . .	114	4	9
Duthie Bros., Brisbane .. . . . .	108	11	4
H. Elms, South Brisbane .. . . . .	146	14	0
M. Finucan, Brisbane .. . . . .	255	10	1
J. Fischle, Brisbane .. . . . .	136	5	0
J. Hargreaves & Sons, Brisbane .. . . . .	982	4	5
Queensland State Cannery, Brisbane .. . . . .	474	9	3
R. Sumner, Brisbane .. . . . .	515	15	6
Victoria Cross Manufacturing Co., Brisbane.. . . . .	1,204	0	4

#### FRUIT CANNING IN N.S.W.

Balgay Cannery, Colyton, Mt. Druitt.

**Heavy Crops Anticipated: Bounties are Imperative.**

At Colyton, Mt. Druitt, N.S.W. the Balgay cannery is conducted by Messrs. P. Methven & Sons, Orchard and Cannery Proprietors.

The acreage under cultivation is about twenty—mostly canning Peaches and Pears.

The processing plant consists of the usual type of packing tables, exhaust boxes, automatic closers, cookers etc., and is capable of turning out ten thousand cans per day.

For the past season the total pack was 25,000 dozen 2lb cans, in round figures—representing the outturn of their own orchard, supplemented by supplies of fresh fruit from the Goulburn Valley and Leeton areas.

#### Coming Season's Prospects.

In regard to coming season's operations, in view of the fact that Peaches especially were light last season, (owing to the ravages of the Rutherglen Fly particularly), the indications are that a heavy crop may be expected next season, and in order to induce canners to pack specially for export trade, in our opinion it will be absolutely necessary for the Government to pay a further bounty to all canners throughout Australia.

If the retail price of tinned fruits can be kept at about the same price as exists at present, we think the Australian public will continue to consume the bulk of the Australian pack. Nevertheless the oversea markets should be cultivated, as large areas are rapidly coming into production, and we should not be surprised to find that during the coming year there will be a surplus of half a million cases for export—collectively speaking—therefore, unless substantial freight reductions are forthcoming, and a decided preference given by England to the products of her Dominions—substantial assistance will still be required by both fruitgrowers and canners.

#### FRUITGROWING UNDER IRRIGATION.

(By Our Special Correspondent.)

##### Pruning Citrus Trees.

CITRUS TREES should be thinned out during the early spring months. The pruning consists in removing all dead wood, and crossing branches, also in thinning out the shoots where they are too thick.

The Orange and Mandarin should not be pruned to allow the sunlight to strike into the centre of the trees, owing to the bark being liable to sun-scald. The Lemon tree may be pruned with open centres, as the bark does not burn so readily, and the tree then fruits along the inside as well as the outside of the branches.

In dealing with the Orange, cut away the twigs that are sweeping the ground, pruning the shoots back to where a growth is pointing in an upward direction. This method appears to cut away fruiting wood, as much of the crop was noticed on the lower branches during the preceding season. This practice does not injure the fruiting habits of the tree, nor reduce the subsequent crop to any great extent, for by the time the next crop has matured, the weight of fruit will again have brought the lower branches on to the ground.

Cultivation is also simplified by lifting the trees off the soil, the team work can be carried out closer to the trees without damaging them.

The limbs may be thinned out where too thick to allow a certain amount of sunlight to filter into the inside of the tree through the foliage. Do not open out the tree, allowing strong shafts of sunlight to penetrate to the inner branches.

Often dead twigs and shoots will be found in the centre of the tree, these should be removed, as they are not only injurious to the health of the tree, but will scratch and mark much of the next season's fruit if they are not removed.

The treatment of the Mandarin is somewhat similar to the Orange, with the exception that owing to the branching habit of the Mandarin on the ends of the limbs, it calls for a little more thinning out of small extensions than in the case of the Orange.

As previously stated, the Lemon may be pruned with a more or less open centre, as the bark is not so liable to sun-scald as that of the Orange or Mandarin. The trees should be so pruned to allow the sunlight to reach the inside of the limbs, to induce fruiting wood to develop along both the top and bottom sides of them.

As one travels through the irrigation areas, trees are noticed with more or less light yellow foliage. This lack of chlorophyll in the leaves may be due to several causes. Usually the trouble lies in the soil. It may be due to insufficient soil drainage, with

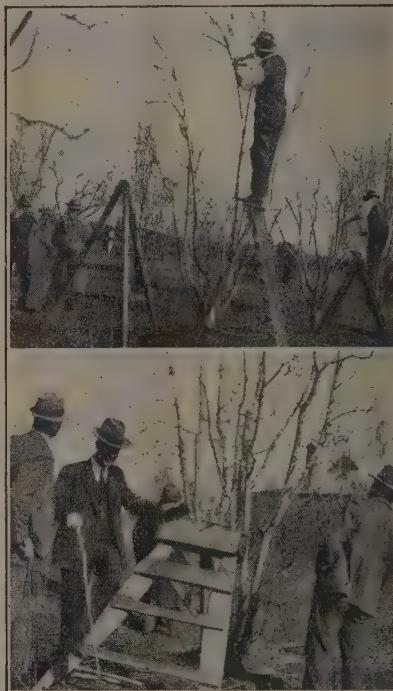
result that salt troubles follow. In this case underdrainage is the only cure.

Trees planted on unsuitable soil may grow well for a few years, and then show signs of deterioration. The life of the trees may be prolonged by liberal dressing of fertilisers and green crops, but the expenditure in many instances will not be justified by the results.

Citrus planted on light mallee soils, or that overlying limestone rubble, are not long lived. Citrus delight in deep, rich, well drained land.

Where the soil is suitable and the trees have borne several crops of fruit, the loss of green coloring matter in the leaves is often noticed.

The Mid-Murray Valley lands are all more or less deficient in organic



River Murray Pruning Competitions.

TOP.—Mr. L. A. Chapple, winner of the Silver Cup in the championship class of the tree section, pruning his pear tree.

LOWER.—The Judge Mr. C. G. Savage, Deputy Horticultural Instructor (centre), Consulting Judges Messrs. W. R. Lewis (left), and F. Hooper (right).

matter, consequently the soil supply of nitrogen is soon depleted.

For immediate results nitrogen may be supplied as nitrate of soda or sulphate of ammonia, these fertilisers being readily soluble should not be applied until the trees are in active growth, for if applied earlier they may be washed beyond the reach of the roots before the plant can make use of them. These fertilisers can be used at the rate of two to three

cwt. per acre. Do not apply the whole quantity at once, but apply in two or more dressings through the growing period, that is, between early spring and early autumn.

The applying of nitrogen by means of fertilisers does not increase the humus content of the soil; this can only be replenished by the application of stable manure or the growing and turning under of green manure crops.

Should it be necessary to work over old trees to other varieties, the trees should be cut back in early spring in order to force out new shoots into which buds may be inserted in March or even as late as April. After cutting down the trees with short portions of the arms remaining, on which, if possible, has been left some small shoots carrying foliage, paint the trunk and limbs over with a thick whitewash, and also cover them with a thin loose coating of straw or hessian. These precautions are necessary to prevent the bark being burnt and destroyed by the hot summer sun.

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Shipping Number 418.

### River Murray Pruning Competition.

The names of the prize-winners in the Championship competitions was published on page 377, August issue.

The certificate winners were, in order of merit.—

Mypolonga.—Gordo class.—M. Bell, A. H. Traeger, A. H. Hilton, and B. Edson; Currant class.—A. R. Hilton, and A. H. Traeger; Sultana class.—M. Bell, A. H. Traeger and B. Edson equal; Peach class.—W. E. Noles, and M. Bell; Apricot class.—A. H. Burnett, H. Lewis, and H. Pearce. M. Bell and W. E. Noles equal; Pear class.—W. E. Noles, A. R. Hilton and A. B. Potter equal, and M. Bell, J. Kavanagh equal.

Moorook; Currant class.—S. Sanders Jr., L. A. King; Gordo class.—S. Sanders Jr., L. A. King, A. McEwin, E. A. Liddicoat; Sultana class.—S. Sanders Jr., A. McEwin, and F. Battams, Ray Swanbury, E. A. Liddicoat (equal); Apricot class.—S. Sanders Jr., L. A. King; Peach class.—S. Sanders Jr., L. A. King, N. Wachtel. Pear class.—S. Sanders Jr., F. Battams, Waikerie; Currant.—H. Green, J. Virgo; C. Smith and H. C. Perry (equal), C. Boehme, J. Boehme, S.

## The Fruit World of Australasia.

Robertson; L. Everett, W. Parkes, E. Miller, J. Carpenter, E. Burrows (equal); Gordo.—W. Perry, J. Boehme, C. Smith; E. Miller, J. Virgo, and H. Green (equal); E. Crabb, R. Stockford, W. Parkes, and T. Taylor (equal); Sultana.—C. Smith, F. Elliott, W. Parkes, G. Perry, C. Boehme; H. Green, E. Miller, and E. Crabb (equal); J. Boehme and C. Kelsh (equal); J. Curtis. Apricot.—C. P. Smith, J. Virgo; E. Miller, F. Elliott, and T. Taylor (equal). Peach.—C. P. Smith, F. Elliott; E. Miller, W. Perry (equal) H. Green, J. Virgo, F. Francis, and T. Taylor. Pear.—C. P. Smith, E. Miller; J. Virgo, T. Taylor, and W. Perry (equal).

Cadell.—Currant.—S. S. Davis, W. S. Mudgie, D. W. Gordon. Gordo.—D. W. Gordon; L. W. Sholl and M. M. Gordon (equal); D. W. Woolford and G. J. Priest (equal). Sultana.—S. S. Davis; M. M. Gordon and D. W. Gordon (equal); L. W. Sholl and G. J. Priest (equal). Apricot.—D. W. Gordon, M. M. Gordon. Peaches.—None awarded. Pears.—W. S. Mudgie and M. M. Gordon (equal).

Berri.—Bush Doradillo.—L. A. Chapple, P. M. Wilksch, A. V. Mills, R. H. Halliday; L. Bruegaud, W. N. Ellis, and W. Partridge (equal). Currant.—W. N. Ellis, A. W. Magarey, L. A. Chapple, R. H. Halliday, M. Cooper, M. Perkins. Sultana.—R. H. Halliday, L. A. Chapple, A. W. Magarey, J. S. Robertson; M. Perkins and W. Partridge (equal), W. N. Ellis; P. M. Wilksch and M. Cooper (equal). Apricot.—L. A. Chapple, A. W. Magarey, L. C. Pennyfield, M. Perkins, R. H. Halliday. Pear.—L. A. Chapple, A. W. Magarey, R. H. Halliday. Peach.—L. A. Chapple, R. H. Halliday, L. C. Pennyfield.

Renmark.—Gordo.—B. C. Niehus, P. John, A. Strachan, W. J. Connolly, L. A. Darrington, B. Ritchie; G. Agars and H. Ruediger (equal). Currant.—P. John, A. Strachan, L. A. Darrington, W. J. Connolly; G. Warsch, G. Agars, and H. Ruediger (equal). Sultana.—P. John, J. R. Dalton, G. Agars, W. J. Connolly; L. A. Darrington and Wilson Connolly (equal), G. Warsch, A. Richards. Apricot.—B. C. Niehus, H. Ruediger. Peach.—B. C. Niehus, W. J. Connolly. Pear.—B. C. Niehus, G. Agars, and J. R. Dalton.

### S.A. FRUITGROWERS' AND MARKET GARDENERS' ASSOCIATION.

#### Executive Meeting.

A meeting of the Executive of the S.A. Fruitgrowers' and Market Gardeners' Association was held on July 25. The President, Mr. C. W. Giles, presided over a good attendance of delegates.

Correspondence was received in reference to the proposal to make a Federal standard for fruit juices, and prohibit the sale or manufacture of temperance drinks or cordials under the label of fruit or name purporting to be the name of a fruit, unless such drinks or cordials contained not less

than 75 per cent. of pure fruit juice. It was pointed out that a similar Act was in force in the United States of America, and, furthermore, some of their 75 per cent. fruit juices were on sale in Adelaide.

A copy of the South Australian Food and Drugs Act was tabled, and showed that in respect to Raspberry cordials, the minimum quantity of fruit juice was 20 per cent. It was decided to furnish Mr. R. E. Boardman, Hon. Sec. of the Australian Conference of Fruitgrowers, with all available information, and to explain that a drink called Apricot Liqueur

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Fruit and Vegetables sold  
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Account Sales posted daily.

### Exporter

Exporter of fruit to English and  
Continental markets.

### 449-451 Flinders Lane, Fruit Exchange, Melb.

Reference—Satisfied Growers  
in all States.

could be manufactured from the juice of Apricots.

It was resolved that our State Government be asked to support the proposals for Federal legislation dealing with fruit juices.

The Grape Industry.—The position of the Grape growing industry was referred to, and the delegates from the Grape section moved that the position of the industry be placed before the South Australian State Government, and ask them to support proposals for assisting the industry in the way of bounty, reduction of excise taxes, or bonuses, so that the growers of all kinds of Grapes would benefit. The motion was carried.

# Queensland.

## The Importance of Packing Instruction : News and Notes.

DURING August there are many fruit shows in Queensland, practically every district from Gympie to Brisbane has its Fruit Carnival at this period of the year. The season so far has been very good; record rains have fallen in every district, and although damage was done to the citrus crops in the Blackall Range districts and a few growers lost heavily, the majority of growers are very pleased with this season's results. The promise for next season is most encouraging indeed.

### Deserted and Neglected Orchards.

#### Inspectors' Increased Powers.

The authorities, knowing that the deserted and neglected orchards are a menace to the fruit industry, have introduced a Bill into Parliament with the object of tightening up the present regulations, and giving greater power to the inspectors. Hitherto there was too much delay in administering the law. The necessity for the Bill has been emphasised by the fruit inspectors, the fruit marketing committee, and the various district councils.

The Bill provides for power being given to inspectors to seize any tree, plant, or vegetable suspected of being diseased, which is being introduced into Queensland or removed from one part of the State to another, and to examine any package suspected to contain diseased plants. If the inspector is of the opinion that the owner or occupier of any premises, upon which is fallen fruit, any of which contains fruit fly or codlin moth, has failed to destroy such fruit for 24 hours, the inspector may do it himself at the expense of the owner or occupier of the premises. Power is also given to order the destruction of any plants when it is necessary for the prevention of the spread of disease.

### Pineapple Growers Do Well.

It is many years since the Pineapple growers of Queensland have had such a good season as the season now closing. Last year, with no control over this fruit, canners were able to secure their stocks at any price up to 3/- per case, and during gluts refuse to take delivery of any fruits that were not quite up to the standard. This season the price has been fixed at 4/- cases returned to growers.

It was usual in the past for canners to purchase any surplus Pines at their own price on the local markets, but with the control working the canners cannot purchase under 4/- per case. This price leaves a reasonable profit to the growers.

### Producers Levy Amended.

The Maroochy council of fruitgrowers passed a resolution at their last meeting asking the Government to review No. 2 of the primary producers' levy, making the levy payable from the nett proceeds instead of from the gross proceeds as at present.

The Central Council decided to accede to the request.

It has been announced by the Department of Agriculture that No. 2 of the Primary Producers Levy regulations has been altered to provide for a levy on primary producers of one penny on every £2, or part thereof of the nett proceeds realised from the sale of primary products, instead of a levy of a halfpenny on every £1 as at present.

An additional regulation has also been approved providing that where the amount realised from the sale of products is less than £2 the agent may summarise the account sales once a week, and make deductions for levy purposes from the total amount, as shown by the summary.

### Palmwoods.

Palmwoods held its first fruit carnival on July the 29th, which was a very successful function, over 600 entries being displayed in the fruit section. The Palmwoods growers are very energetic, and are endeavouring to place their district in the front division. The outstanding features of the Carnival were the large range of citrus fruits, among which were fine displays from Montville, Flaxton, Hunchy and Buderim Mount.

Mr. R. Dunning, of Palmwoods, displayed 15 varieties of Oranges and Mandarins, each variety being well grown and of clean thin skin.

At the request of His Excellency the Governor (Sir Mathew Nathan), Miss Nina Dunning packed two cases of Oranges to show her speed. Her time for each case of 154 fruits was 1min. 39sec. Miss Dunning is a pupil of the Department of Agriculture packing class.

### Mapleton.

Mr. J. Millar's 30-acre citrus orchard at Mapleton has been purchased by His Grace Archbishop Duhig, of Brisbane, for the purpose of training students in the correct methods of fruit culture. This Orangery is a splendid property, situated at the northern end of the famous Blackall Range, overlooking Nambour and the Maroochy River. The Rev. Father Wright is manager, and Mr. J. Somer is the instructor in charge. The place is being called St. Isodore's College Farm.

### Successful Grower.

Mr. J. Tennant, of Mapleton, is taking the lead so far as the grading and packing of his citrus fruits are concerned. He was one of the first to instal a mechanical sizer, and to pack in modern cases instead of the out of date "long packer" case. Mr. Tennant wraps all his fruit in stamped wrappers, and has been receiving high prices for his products. Others are following his lead, and many very nicely designed wrappers are being used. In six months the installation of sizers has increased from two to over forty in the Maroochy Shire.

### Nambour.

The Annual Show was held on August 1st. The fruit section was not up to the usual standard, this being probably due to the very heavy rains which had fallen during the preceding week. The principal prize-winners were—Citrus, J. Tennant (Mapleton), Bananas, A. Martyn (Perwilloween).

### Fruit Packing Competition.

The usual Citrus Packing Contest was a feature, and is becoming very popular among the fruitgrowers' children in citrus areas. Five clubs out of six from the following schools competed. The winner of the prize for the best packer under 14 years of age was Arthur Parkyn, of Buderim School. Nina Dunning was successful in the class for over 14 years.

Schools.—Nambour Rural, Mapleton, Flaxton, Montville, Palmwoods and Buderim.

### Oranges for Java.

Mr. A. Clerk, of the Blackall Range, has forwarded two trial shipments of Oranges to Java. The first consignment was sent on July 3rd and the second on August 4th. It will be interesting to citrus growers in this State to know the results of this experiment. There is no doubt that a market will be needed for citrus in the near future, especially during months of June, July and August, when prices are very low on the local markets. The matter of preventing gluts and finding new markets will engage the attention of the Committee of Direction for Fruit Marketing.

### Victorian Fruit Packing Expert.

Mr. Basil Krone, Victorian Fruit Packing Instructor, visited Brisbane for the purpose of exhibiting Victorian Apples and Pears at the Centenary Exhibition. The Queensland Agricultural Department arranged for him to visit the following districts:—Bribie Island, Palmwoods, Montville, Flaxton, Mapleton, Nambour and Gympie. Mr. Krone was present at several fruit packing classes conducted by the Queensland Department, and was much impressed with what he saw: he noticed that growers were supporting the classes by supplying the necessary fruit, paper and shed accommodation. He was surprised at the speed of the

children in packing, and the enthusiasm shown by everybody concerned.

#### A.W.U. Award.

An application was made to the Arbitration Court for an award, by the Australian Workers' Union. The Arbitration Court decided to refer certain matters to an industrial board, viz.:—

"Whether it is in the public interest that an award should be made for workers engaged in fruitgrowing and other rural industries other than sugar and cotton;

"And if an award, in the opinion of the board, should be made, what should be the provisions thereof."

Mr. H. Vinnicombe, of the Council of Agriculture, is the advocate for the fruitgrowers.

The board has already taken evidence in the Bowen and Rockhampton areas, and growers are coming forward and giving valuable evidence, and the final report should be of great economic value to Queensland. The main question put to the fruitgrowers by the employees' representative is whether the grower owns a motor car or not.

#### Committee of Direction Activities.

The Committee of Direction has rented a large building in Turbot-street, Brisbane, where everything connected with the scheme will be carried out. The ground floor will be used for Banana sales and the first floor for the offices of the Committee. The second floor for meetings of the sectional group committees. The transition was effected smoothly. Sales have been very good, and competition keen. The sales are always by auction, and all supplies are cleared the day of arrival. Account sales and cheques are rendered to the growers daily.

There can be no doubt that the change has reduced the overhead expenses very considerably. Additionally, the market has been firmer than prior to the concentration on one floor.

#### Brisbane Show.

#### Interstate Competition.

No finer display of fruit has ever been seen in Brisbane than that at the National Show this year. The general public were unanimous in their praise of the quality of the fruit and the wealth of variety, many tributes of admiration being paid to the display.

Mr. John Macdonald, Vice-President of the Association, spoke in terms of high appreciation. "This year," he said, "we have exhibited Apples from Stanthorpe which have been in cool storage since February. Their quality suggests parcels sent to England would arrive in good condition. The Victorian Fruitgrowers' Association was given free space for the display of their Apples and Pears, as a result they put forward a very creditable exhibit. We are now considering a scheme for inviting the whole of the

States of Australia to send exhibits of their fruits to the next Brisbane Show. This suggestion has been made that Queensland might reciprocate in each State; as a result friendly competition might be promoted, and the various States would be able to impress on the public the good quality of the fruits of Australia, and be the means of persuading the people to carry out the well-known slogan—eat more fruit."

#### Palmwoods Wins Packing Competition.

The fruit packing shield, which has been subscribed for by a number of

	Points.
(1) Palmwoods State Schools	434
(2) Montville	424
(3) Nambour	421
Mapleton	397
Buderim	394
Flaxton	381

The average was taken from the six highest in each Club.

The boys' individual prize was won by David Low, of Nambour, with 86 points.

(Girls), Daphne Schubert, of Palmwoods, with 84 points.

#### Governor Praises Packing Classes.

In his opening speech at the Brisbane Royal National Show His Excellency (Sir Mathew Nathan) dwelt on the necessity of training the young mind in rural centres in something that would be of use to them in later years. He mentioned that what had been done in the fruit packing and stock judging classes was wonderful, and there was no reason why extension could not be made to other industries in rural centres.

It was his opinion that the day of map drawing and other unnecessary work in country schools will be given up to a work of more importance.

#### Victorian Display.

Mr. Krone, Packing Expert, who was in charge of the Victorian Exhibit of Apples and Pears at the Brisbane Centenary Exhibition, made a very creditable display, considering that the fruit had been from eleven to thirteen days on the journey from Victoria to Brisbane.

The exhibit was very effective, and right in the centre was a large map of Victoria with a lady holding a basket of fruit, immediately overhead a sign was erected with the words, "Eat Victorian Apples."

The exhibit will do considerable good to Victoria in many ways, and it is suggested by several experts that for a display of this kind fruit should be sent to Brisbane in cool chambers to enable the fruit to be shown to advantage.

The Royal National Association has extended a cordial invitation to Mr. Krone to come along next year.

Mr. Cyril H. Miller, sole Victorian agent for the "Rowson" Gravity Conveyor, advises there is a keen demand for further particulars of this machine. Between five and six hundred feet have already been sold this month. The machine, which is made of all steel, ball-bearing rollers, is specially suitable for packing sheds and cool stores. The cases or goods being transported from one end of the shed to the other by gravity, no power is required. Attention is drawn to advertisement on page xv., and full particulars are obtainable by writing to 31 Queen-street, Melbourne.

It requires strength and courage to swim against the stream, while any dead fish can swim with it.—S. Smiles.

## R. JOEL & SONS

16, 17, 20 RUSSELL ST.

Covent Garden Market

LONDON, W.C.2

And at 10 Vernon Street, LIVERPOOL

Open for  
Consignments of  
all Australian,  
Tasmanian and  
New Zealand  
Fruits

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Agents Wanted in—  
MELBOURNE, HOBART, NEW  
ZEALAND and WESTERN AUS-  
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#### BANKERS:

National Provincial Bank Ltd.,  
Long Acre, London. Barclay's  
Bank, Henrietta Street, Covent  
Garden.

the Royal National Association members, and called "The John Macdonald Shield," was won this year by the Palmwoods Packing Club. The shield is to be competed for annually, the packing club securing the highest average points for each competition is declared the holder of the shield until July 25th, 1925.

Each year the name of the holder, and the year of competition is inscribed on one of the medallions provided for the purpose.

The judges were Messrs. Basil Krone and Mr. Wm. Rowlands, fruit packing experts of Victoria and Queensland respectively, and their awards were as follows:—



# Dried Fruit Department



## FEDERAL GOVERNMENT OFFERS ASSISTANCE.

**Advance of £200,000 to Growers, and Constitution of Board of Control.**

## PROPOSED SCHEME OF REORGANISATION.

Following the announcement, published last month regarding the Federal Government's offer to advance, against next season's crop, 30/- per ton per month on exports of Sultananas and Lexias, and 5/- per ton per month on Currants, the Prime Minister has made a further statement.

### Board of Control.

Mr. Bruce announced that it was proposed to constitute a board which would receive advances from the Government and be charged with their distribution among growers of dried fruits who required financial assistance before crops were realised upon. The suggestion was that advances should be made for improvements, implements and other purposes, interest being charged, and refunds being made a first charge on the returns from the crop.

It was estimated that the amount required for the year would be approximately £200,000. The controlling board would not be a governmental institution, but the Government would be represented by a member.

A Bill has been drafted along these lines, and is now before Parliament.

Large meetings of growers have been held at Merbein and Mildura, and committees appointed to watch events. From the Mildura meeting two were selected (Major Goucher and Cr. O. R. Linden) to interview the A.D.F.A. chairman and executive. These gentlemen presented the scheme for reorganisation adopted at Mildura.

The feeling amongst many growers is that the scheme outlined by the Government is of a temporary nature only, and the necessity still exists for reorganisation of the dried fruits industry. The scheme adopted by the Mildura meeting referred to includes the incorporation of a company, having a membership of bona fide growers, the growers in their various districts to appoint delegates to district councils, the councils to appoint delegates to a central council, the central council to administer the organisation in conjunction with a Govern-

ment nominee, and to appoint a Board of experts, the functions of the latter being to advise in respect of grading, processing and marketing.

The objects of the reorganised association would be to include the purchasing of the fruit from growers on the basis of the purchase money, being the net realisation of sales of each pool ultimately ascertained, to contract with banks to finance, etc. The capital of the proposed corporation is to consist of shares limited to £200 to each grower, under the Provident Society's Act for the purpose of acquiring fixed assets, such as land, plant and machinery. Pending acquisition of share capital, the grading and processing to be carried out by the present factories under contract.

It is hoped thus to release all growers at present indebted to packing sheds.

Messrs. Goucher and Linden presented a report of their mission to a meeting of Mildura growers on August 24th, and a sub-committee was appointed to carry on the business and to conduct a secret ballot regarding the proposed reorganisation.

## AUSTRALIAN DRIED FRUITS ASSOCIATION.

The monthly meeting of the A.D.F.A. Board of Management was held from 29th July to 1st August. The following is an official resume of the proceedings:

In view of the big pack of low grade fruits this season, and the difficulty of exporting same, it was decided that 1 Crown Grade of Sultananas and Currants be reduced 1d. per lb., and offered to the grocery trade as well as manufacturers.

The merchants' representatives having been consulted on the foregoing, they fully endorsed the Board's action, appreciating the value of having a cheaper line to offer against "outside" competition.

Careful enquiry into New Zealand marketing conditions, and the advisability of lowering prices to meet the American competition there, had

finally to be deferred, in view of the introduction in the Federal House of a trade treaty with New Zealand. Manifestly, in the light of this development, the Board could not at this juncture set out a fresh price schedule with the New Zealand trade until finality was reached in regard to preference. In view of the uncertainty as to the Federal Government, the prices were determined and their announcement left at the chairman's discretion.

An application received from Messrs. McClure, Valentine & Co. Pty. Ltd., asking that their agency be transferred to The Aurora Packing Co. Pty. Ltd., was granted, provided that the application be backed up by a request from the Aurora Fruit-growers' Association.

### Export Proportions.

The export proportions of the various fruits in view of the pack figures, had to be increased as under:

Currants—a further 5%, making 75% in all.  
Sultanas—a further 12½%, making 82½% in all.

**L e x i a s .**—As it is intended to vigorously prosecute the Raisin Bread campaign, and the trade through this source shows improvement, no alteration was made in the present declared export.

**Pears.**—Agents were asked to complete the full 40% previously arranged for.

Instructions were issued for a special push in the eastern States, to endeavour to clean up the Nectarines held in South Australia, rather than export this good but little known fruit; the whole quantity involved being only some 20 odd tons.

### Commonwealth Government's Assistance.

After protracted negotiations with the A.D.F.A., the Federal Government has announced its decision to make advances against export, of 30/- per ton per month on Sultananas and Lexias, and 5/- per ton per month on Currants. An outstanding point growers would do well not to overlook is the recognition of the Government for the first time of the dried fruit problem of export markets. Their announcement that they were prepared to render further help in marketing problems, is of the greatest value to the future welfare of the industry. Growers would do well to avail themselves of this advance.

# ROYAL AGRICULTURAL SHOW

It will interest you to see our display of Fruit Graders—

## The "LIGHTNING" and the "PENANG"

### Also our POTATO AND ONION GRADER

Working Demonstration daily at  
Barger's Implement Stand,  
"No. 64 Plummer Avenue



Grades all fruits accurately without bruising. Capacity up to 1,000 cases per day.

A Wonderful Success. Highest Authorities are Enthusiastic over this Grader.

The "Lightning" Fruit Graders are in every State of the Commonwealth, also New Zealand and South Africa, and

**EVERY OWNER IS A SATISFIED OWNER.**  
What further recommendation is necessary?

We are showing Models to suit every grower and packing shed.

**THE SIMPLEST, STRONGEST, MOST EFFICIENT MACHINES on the Market.**

Prices from £18/15/-

CATALOGUE ON REQUEST.

## LIGHTNING FRUIT GRADER Co.

109 Cromwell St., Collingwood, Vic.

Telephone J 1084. Cable and Telegraphic Address: "LIGHTNING" Melbourne.

**Publicity.**—Authority was given for a three months advertising campaign, along lines set out by the advertising expert engaged by the Board. Both in press, magazines and personal canvass, special attention will be given to the popularising of Raisin Bread.

**Cold Storage to kill Grubs.**—An offer received by the Board from Mr. Larkin, through Mr. W. P. Caro, placing refrigerator space for shipping several hundred boxes of fruit in one of the experimental chambers of the Commonwealth Line of steamers at the Associations disposal, free of cost, was accepted, the object being to note if any minimising of the grub trouble resulted.

**Duty on Box Timber.**—Realising the extreme necessity of cutting costs in every way on dried fruit from grower to consumer, the Board again pressed their previous claim on the Tariff Board for a refund of duty on box timber and grease-proof paper.

**Increased Duty Sought on Dates.**—An increase of duty on Dates was requested, and statistics submitted to prove their serious competition with dried fruits.

All dried fruit executives concerned were written, requesting their active support of the Board in approaching the various State Governments to secure the carriage of dried fruits at the same rate as wheat.

The adjustment of "over and under" exports between agents has been a cause of much anxiety. Finality is now in sight by the drawing up of a legal agreement between the association and all agents, so that all agents would be bound to carry out adjustments. This was approved and passed forward for agents' signatures.

Mr. F. L. McDougall, who recently arrived from the United Kingdom, attended and gave the Board a brief report on his London mission. He was in a position to give much useful information, and though on that occasion his visit was a hurried one, he is at all times in close touch with Mr. Howie, and his unique knowledge is available for the growers' executive. The Board placed on record—"Its great appreciation of the services rendered by Mr. McDougall to the dried fruits Industry on the preference issue in Great Britain."

The Board then met and considered their policy with the Federal Government.

**Australian Dried Fruits Appreciated.**—The "Morning Post," London, in a leading article, highly commends the samples of fruit sent by the Australian Dried Fruits' Association.

**Freight Reduction.**—In answer to a deputation from the Merbein and Mildura Fruitgrowers' Association, the

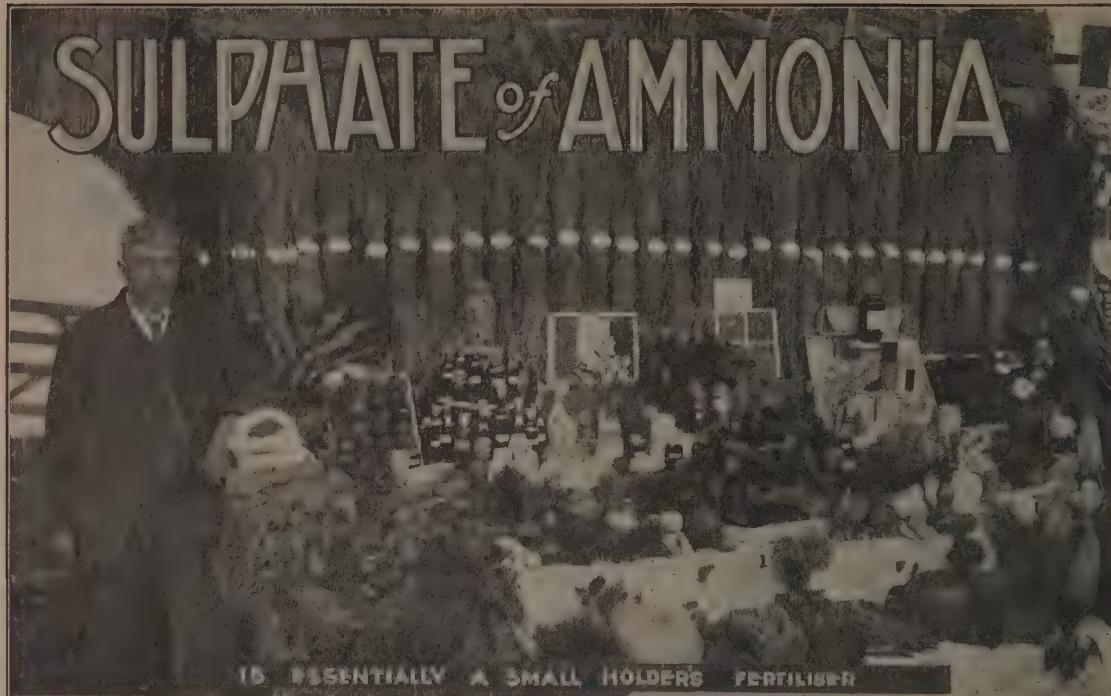
Railway Department notified that they were prepared to grant a reduction of freight on the export portion of the dried fruits crop.

**Farewell to Mr. A. S. Hopkins.**—On the 13th August a complimentary farewell social was tendered to Mr. A. S. Hopkins, previously General Manager of the Mildura Co-op. Fruit Co. Cr. H. F. Paul presided. Many appreciative remarks were made concerning Mr. Hopkins' services, and he was then made the recipient of some presentations.

**Fruitgrowing at Mypolonga, River Murray.**

### Ten Ton Grader for Dried Fruits.

The Mypolonga Irrigation Area is rather an experiment in irrigation, in that it combines dairying and fruit-growing and drying. There are roughly about 1,000 acres reclaimed river swamp lands, growing lucerne and other feeds, and watered by gravitation, and about the same area of higher lands under fruit trees and vines. The result of the experiment is problematical, and is being watched with interest; growers are beginning to realise that with the orchards and vineyards coming into full bearing, sufficient attention cannot be given to either swamp or orchard, except at



J. LODGE'S PRIZE-WINNING "ONE-MAN FARM" EXHIBIT AT BACCHUS MARSH SHOW, 1922

*Sulphate of Ammonia literature from—*

The Australian Gas Light Co., Haymarket, Sydney, N.S.W.; The Broken Hill Prop. Co. Ltd., Newcastle, N.S.W.; The North Shore Gas Co. Ltd., 193 Alfred Street, North Sydney, N.S.W.; The Metropolitan Gas Co., 196 Flinders Street, Melbourne, Vic.; South Australian Gas Co., Weymouth Street, Adelaide, S.A.

Visitors to the Melbourne Royal Show should call at Stand No. 248, Staughton Grove,  
and learn all about Sulphate of Ammonia

a too heavy cost for labor, and either or both necessarily suffer.

The Mypolonga Co-operative Society Ltd., of which the majority of growers are members, was formed about four years ago, mainly for the purpose of dealing with the grading and packing of dried fruits, a ton grader is installed, and although up to the present, the orchards being young, not a great amount has been treated, the quantity will be largely increased in the coming seasons. The Secretary of the Society is Mr. H. Blizzard.

*Dehydrated Fruits and Vegetables.*

Mr. A. F. Spawn was the guest at a dinner tendered to him on the 1st July at the Cafe Francais, Melbourne. There were 23 persons present, including several members of Parliament. The exhibit of dehydrated fruit and vegetables put up by Mr. Spawn was appreciated by all.

Dr. G. P. Philpots (dental surgeon), who presided, on introducing Mr. Spawn, said that every citizen in Australia should consume at least 10 lbs. of fresh, or its equivalent in dried, fruit per week. This would mean that every person in Australia would consume 520 lbs. of fruit per annum.

If this were done, Australia would need to produce 1,307,726 tons of fruit per annum, whereas the total production of fruit in Australia for the year 1922-1923 was 447,424 tons. Thus we under-produced by a long way.

There is no reason why every home in Australia should not have fresh or dried fruits at each meal. The Government should take this matter up at once as a means of preventing disease. Fruit at the present was a luxury in the home of the wage-earner, who represented 85 per cent. of the people, yet the Government was proposing an extensive scheme of National Insurance to supply medical treatment when the people became ill from preventable disease.

Most of the diseases which the Government proposed to treat under the insurance scheme were caused by wrong diet, and were mainly due to the lack of fruit. The messages of the health giving properties of fresh and dried fruits must be brought into every home in Australia. When that was accomplished, the health of the people would be improved, and the fruit industry of Australia established on a firm foundation.

Mr. Spawn said that under proper organisation, there must be a great future for the Australian fruit industry. Instead of packing prepared fruits in heavy 56 lb. boxes, he was of the opinion that they should be put up in artistic cartons. From the cores of Apples alone could be made gallons of the choicest jelly as a by-product.

Mr. Spawn came to Horsham with twenty settlers, mostly men from the Old Country, and established a fruit-growing irrigation colony close to Horsham called Riverside. This settlement has proved a success, some of the original settlers being still on the place.

The opinion is held locally that if Mr. Spawn could settle down in Horsham and treat the district fruit under his drying process, and prepare it for sale, it would be of great value to the growers. He is going to America, and expects to return in December.

"Make every post a winning post," urges the strenuous man. But too many are inclined to make the post a verandah post, to lean against.

**Victoria.****Orchard Registration.**

**Conference Adopts Scheme for Compulsory Fee of 1/- per Acre.**

About a hundred delegates from affiliated Associations attended the Conference called by the Victorian Fruitgrowers' Central Association to discuss the proposal to have an Orchard Registration Bill made law. Mr. J. W. Bailey presided.

Two Associations wrote opposing the proposals, one of which notified that they would take active steps to

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## Fruit Importers & Salesmen

30 James St. and James  
St. Warehouses,  
11 Neal St.,  
COVENT GARDEN  
LONDON, W.C.  
and at  
Jamaica House,  
9 & 10 Botolph Lane, London, E.C.  
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Sales by PRIVATE TREATY.  
Prompt Returns & Settlements  
Tel. Add.—FRUTERO, LONDON.  
MARGETSON, LIVERPOOL.  
Head Office—Covent Garden  
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Law Courts Branch, Strand,  
London, W.C.

TASMANIAN AGENT

**A. J. WALSH,**  
41 Collins Street,  
HOBART.

put their objections before the Government.

On the motion of Messrs. Lang (Harcourt) and Thomas (Bunyip) the principle of the Orchard Registration Fee was adopted with four dissentients.

The various clauses in the proposals (as published in July "Fruit World") were considered in detail.

After an animated discussion, the basis for an Act of Parliament on the following lines was adopted:

The fee shall not exceed 1/- per acre in any year, with a minimum charge of 5/-. Maximum period three years, to be renewed if growers approve.

The rate shall be reviewed and assessed by the controlling committee each year. The fee shall be collected from commercial orchards.

A commercial orchard to be defined as a plantation of trees or berries any portion of the produce of which is sold.

The district orchard supervisor shall inspect every orchard in his district before 1st July, assess the tax, and leave the official notice (in triplicate).

The income from the tax shall be divided between (a) local organisations, (b) sectional organisations, (c) the State Board—a central executive. The Government to be asked to collect the tax free of charge.

The controlling finance committee shall be elected by the annual conference, and shall consist of a president, vice-president, and one representative from each organised section or zone of the fruitgrowing industry.

It was then resolved, on the motion of Messrs. Lang (Harcourt) and Mitchell (Wandin)—

That all sections of zones of the fruitgrowing industry be recommended to organise, preparatory to appointing a representative on the executive committee of the Fruitgrowers' Federation formed under the Orchard Registration Act.

The Conference then agreed to the amended proposals, and that they be sent to the Minister through the State Advisory Board.

Chatting subsequently with delegates the opinion was expressed by some that substantial progress had been made, as on the whole there was a desire for better organisation in the industry. Others were dubious. Growers hoped that the draft of the Bill would be available for discussion at local meetings. It was also felt that the success of the scheme depended upon good administration, with a capable secretary.

### Advisory Board Accepts Scheme.

At the Victorian State Advisory Board, the Assistant Minister for Agriculture (Mr. Cain) presiding, the proposals for compulsory registration of orchards were moved by Mr. Bailey, as follows:

"That the State Advisory Board endorses the principle of compulsory registration of orchards, requests the Government to draft a Bill to give effect to the principle, and that it recommends that the resolutions passed at the Conference convened by the Victorian Fruitgrowers' Central Association be taken into consideration when framing the Bill."

The resolution was carried.

"Compulsory Unionism" says Labor Minister.

Mr. Cain said that he would place the resolution before Cabinet. He

recognised that there were great difficulties in the way. The Board was asking the Government to bring in legislation which would force all sections of fruitgrowers to contribute funds for the benefit of the industry. In a way it was compulsory unionism. The fruit industry had had a rough time in the last few years. The Government intended to assist all sections of primary producers in disposing of their produce. Organisation was the basis of success in every industry. What they had to do to-day was to evolve some scheme whereby

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**"Morton Efficiency"**  
**Dehydrator**  
(By Royal Letters Patent)  
(Adopted after elaborate Official Tests  
by H.M. Imperial Govt.)

Consultations and Reports on EVERY  
DESCRIPTION of DRYING APPLIANCE.

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## COVENT GARDEN, LONDON

**Ridley, Houlding**  
& CO.,  
Large Receivers of Australian  
Fruits.

Solicit Consignments of  
**Apples, Pears, &c.,**

Best market prices and prompt  
account sales returned.  
Correspondence invited.  
Representative in Victoria  
THE  
International Fruit & Mercantile Co.,  
410 Flinders Lane, Melbourne  
MURDOCH BROS., Hobart

products could be conveyed direct to the consumer at the cheapest possible rate. Distribution was the great difficulty. The cost of distribution was now sometimes greater than the cost of production.

A reader at Batlow, N.S.W., writes:  
"The 'Fruit World' is eagerly looked for every month, both by my wife and self,—in fact I do not get a chance to look at the "Fruit World" until my wife has thoroughly read it."

**Pear Growers' Association Formed.**

Growers from Shepparton, Ardmona, Tatura, Bamawm, Lancaster and Merrigum met at Kyabram on August 2 to consider forming a Pear Growers' Association. Mr. D. James (Shepparton) presided.

On the motion of Messrs. J. H. Sinclair (Bamawm) and A. Lees (Shepparton) it was decided to form the Victorian Pear Growers' Association.

The chairman said that by organising they could meet the canners unitedly; develop the export trade, with an insurance guarantee by the Government against loss.

Mr. F. Pullar (Ardmona) thought that the Association should not stretch out too far at the outset, but should content itself with being the mouthpiece of the growers. Statistics of production as well as of consumption on the Melbourne and Sydney markets should also be collected. Instead of fixing prices during the first year, they should inquire into the questions which more closely concerned economical and efficient working. An advertising campaign should be launched as early as possible. By restricting agents they would be interfering with a number of legitimate businesses. He did not favour any such revolutionary ideas.

A committee comprising F. Pullar, David James, A. Lees, S. G. Pullar, V. McNab, and R. Brown was appointed to draw up a plan of campaign.

**BETTER FARMING TRAIN.****To Gippsland in October Next.**

Many farmers are not able to spare the time for independent enquiry to increase their knowledge. To overcome this disability, the Department of Agriculture which exists to help the man on the land, and which is continually conducting exhaustive researches and trials; aided by the Railway Department, which, as a carrying concern, is vitally interested in increasing production for the benefit of the general taxpayer, who owns the railways, has organised a Better Farming Train, which will make its first trip leaving Melbourne on 13th October next, returning on 23rd idem; visiting Bunyip, Neerim South, Waragul, Yarragon, North Mirboo, Morwell, Maffra, Bairnsdale, Kilmany, Traralgon, Moe, and Drouin.

The train will be equipped with agricultural, dairying, selected live stock, and other exhibits, and will be accompanied by expert lecturers and demonstrators. It will also cater for the rural wife and mother, and her domestic affairs, by the provision of a domestic economy section, and of the services of skilled demonstrators in cooking, domestic hygiene, and child welfare etc.

Some time prior to the running of the train, officers representing the Agricultural and the Railway Departments will visit the various centres to address people interested on the

## T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

## 11 WESTERN MARKET, Melbourne

### TASMANIA

We are the Leading Australian Firm of FRESH FRUIT EXPORTERS, JAM MANUFACTURERS (IXL Brand), FRUIT CANNERS, HOP FACTORS (owning the largest cool stores for this purpose in the Commonwealth).

Supplies of Corrugated Straw-board, Genuine Sulphite Paper, Nails and best Packing Materials available at all times.

Sole Distributing Agents for the Southern Tasmanian Associated Manufacturers of Evaporated (dried) Apples.

Agents for—  
Federal Steam Navigation Co. Ltd.,  
Scottish Shire Line of Steamers,  
Osaka Shosen Kaisha, London  
Assurance Corporation.

Correspondence Invited.

### H. JONES & CO. LTD., HOBART

## Fruit Shipments LONDON

### Liverpool and the Continent

## W. D. PEACOCK & CO.

24 Martin Lane, Cannon St.  
LONDON, E.C. 4  
AND HOBART, TASMANIA  
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

subject, and make any detailed arrangements which may be necessary.

The Departments of Agriculture and Railways are to be congratulated in inaugurating this progressive enterprise.

**FRUIT TRAIN FROM CROYDON.****"Only Moderately Satisfactory."**

A truck of 400 cases of Apples and Pears was despatched for sale at railway stations en route from Ararat to Hopetoun on Thursday, June 19th, writes Mr. W. E. Pratt, Secretary of the Croydon Orchardist's Co-operative Association Ltd. This truck was well advertised both in the local prominent papers, and also by means of circulars forwarded to every centre throughout the districts served by this line.

The results however, were only moderately satisfactory. The advertised prices which included railway freight were:—Jonathans, 10/- per case; other varieties, 9/6d; Pears, 7/6d. and 8/6d. per case. A fair quantity of fruit remained unsold on arrival of the truck at Hopetoun, and this fruit had to be disposed of at reduced prices at stations on the return journey. In consequence the prices realised were about 1/6d. per case below expectations, and the costs about 6d. per case more than the estimate of 2/10d. per case (inclusive of packing). It was found there was still a fair quantity of locally grown fruit available (especially Apples), which naturally restricted the demand.

**Harcourt.**

In 1908, when the Hon. Geo. Swinburne was Minister of Water Supply, he visited Harcourt to inspect a proposed extension of the water channel at North Harcourt.

The property that would be served by this channel was then used as a sheep run. Mr. Swinburne was assured that with water available the whole of this fertile valley would become orchards, and so impressed was he with the possibilities that he authorised the construction of the channel.

Last month Mr. Swinburne was again invited to Harcourt to see how well the residents had fulfilled their promises.

Standing on one side of the valley that on his former visit was simply pasture land and uninhabited, but was now filled with well grown orchards and comfortable homes. Col. W. E. James, on behalf of local people, thanked Mr. Swinburne for his action as Minister, which had been so beneficial to the district.

Mr. Swinburne, in reply, stated that he appreciated very much the kindness of the residents in inviting him to Harcourt, and he was also pleased to know that his term as Minister of Water Supply had not been without good results.

Mr. Swinburne was afterwards present at a banquet tendered by the local people to their parliamentary representative, the Hon. H. S. W. Lawson, M.L.A.

### CURING AND MARKETING OF LEMONS.

The Editor, "Fruit World."

Sir,—I read with interest the remarks of Mr. Wicks on the above subject in your August issue, and agree with him that by the adoption of proper methods in handling and packing, the quality of Australian Lemons can be improved to such an extent that growers need have no fear of competition from imported Lemons.

During my visit to California, on behalf of the Griffith Producers' Co-operative Co. Ltd., in 1922-23, I made a special study of the methods adopted there, and after my return, during the winter of 1923, successfully handled a small quantity (some 500 cases) of Murrumbidgee Area-grown Lemons.

The quantity of Lemons grown on these Areas, however, is not sufficiently large to warrant the expenditure necessary to enable us to completely adopt standard Californian methods.

The first essential is to organise growers so as to obtain control of a sufficient quantity of fruit to warrant—(1) the expenditure on building and plant necessary for economical working, and (2) the provision of expert supervision.

I want to dispel the more or less popular idea that some secret method is used by those who have been successful in putting superior Lemons on the market. The whole thing depends on the correct application of standard, commonsense methods in picking, handling, sterilising and storing the fruit, and to obtain that, growers must provide the first essential mentioned above. The organisation of Lemon Growers for this purpose is certainly a task worthy of the attention of the Citrus Association, but any group of growers able to shoulder the financial responsibility, and provide the necessary quantity of fruit, would find their enterprise amply justified.—Yours faithfully,

J. S. VAGG.

Griffith, 21st August, 1924.

### CITRUS FRUIT IN WESTERN QUEENSLAND.

The Maranoa is outstanding as a district for the production of the finest Oranges and Mandarins. These are arriving in fair quantity now, and their excellence may be readily proved. The skin of the Oranges—the finest varieties of Navel, also St. Michael's—is very thin and velvety, whilst the flavour is most exquisite.

The orchards where these superb fruits grow are situated near Chinchilla, Roma, Mitchell and Charleville. Some are irrigated, but, owing to the eminent suitability of the soil, others produce splendid crops without artificial watering.

At Roma, in addition to several smaller places, there is one orchard of about 40 acres under fruit of this sort. At Mitchell there is one of 11 acres and several smaller. Here (at Mitchell), states Mr. Wm. Leslie, Assistant Instructor in Fruit Culture, the dreaded Red Scale has not yet got a hold, and Lemons, Naval Oranges and Mandarins may be seen without a speck or blemish. The skin is so fine and thin, and the fruits so large and juicy that one of them would be equal to about three ordinary Oranges.

At Charleville and Wyandra, some small orchards are irrigated from the Warrego River, and the excellence of the fruit speaks favourably of the system as well as the soil and climate.

At Tiger Scrub, near Orallo and the Lander Oil Co.'s bore, a new citrus orchard and vineyard have been started, and the three-year-old trees promise good returns. The soil here is a deep chocolate sandy loam, rich in humus. The quality and size of these western citrus fruits—especially the Oranges, compares favourably with, or even excels, the Californian Oranges which the writer has seen in Covent Garden Market, London.

### EXPORTING AUSTRALIAN ORANGES.

#### What is the Best Sized Package?

Growers are seriously asking the question as to which is the best case in which to export Oranges to England. The so-called Californian citrus export case, containing 1 1-3rd bushels, was favored and adopted on the presumption that the London buyers had got used to this particular package. Experiments are now being made in shipping the Oranges in dump cases, i.e., the case which is used for Apple export trade. Some of the reasons which have been advanced in favor of the dump case are that with regard to finance, the London trade does not unduly differentiate between the two sizes; in fact, the system of finance in some instances actually favors the dump case. This would appear to indicate that London does not place undue emphasis on the size of the case, though this has come as a surprise to many who have previously been keen in advocating the 1 1-3rd bushel size.

Orange export from Australia is as yet in its initial stages, so that it is unsafe to dogmatise. Other reasons which are advanced in favor of the dump bushel case are that there are no central divisions which, in the case of the 1 1-3rd bushel, is considered to be a disadvantage, as it may block the passage of air.

Then again (and this is pointed out by citrus packing sheds), it is difficult for packers to switch off from packing the bushel case, and to carry

on with the packing in the larger sized case for the export trade. When the packers have got into their stride with the bushel case it is extremely difficult to get the same accuracy and speed when suddenly called on to pack the larger case, which needs entirely different treatment.

Next comes the question of cost. The hardwood bushel case costs approximately 1/-, and the citrus export case 2/2. The lumpers, stevedores and shipping companies are more used to the handling and stowage of the bushel case, especially remembering that the Orange season follows on so closely after the close of the Apple export season.

Whilst the 1 1-3rd bushel case may suit the Californian and South African trade, it does not necessarily follow that this is the best for Australia with its greater distance from England, necessitating longer stowage in shipping chambers. It appears that the London trade is not so wedded to the 1 1-3rd bushel case as was previously thought. If this be so, another point (and a very practical one) will be involved, viz., if Oranges in a dump case realise, say, 20/- per case, will the 1 1-3rd realise £1 6/8, or would the human tendency of desiring a larger quantity at a lower price operate and the latter case realise, say, 25/-.

The foregoing matter is being seriously discussed by growers with a view to arriving at the practical decisions which will be of the greatest benefit to the growers and the industry generally.

### SPANISH ORANGE LOSSES.

#### Tens of Thousands of Cases Destroyed.

Enormous losses have been suffered during the past five weeks in the Spanish Orange trade, stated a London merchant on 18th May in the English "Sunday Pictorial," who had just returned from a visit to Valencia.

"Ninety-five per cent. of the packers have suffered," he said, "and many in Valencia and other Orange ports have closed down."

"Early in April the excessive rains, coupled with the early rising of the sap, softened the fruit to such an extent that about 1,500,000 packages were affected by deterioration in transit; and tens of thousands of cases have had to be sacrificed."

"During the past fortnight, however, a mild heat wave has passed over the Orange orchards, and saved what is left of the crop. These 500,000 cases, which will continue to arrive here until the end of June—will be the sweetest fruits of a very lean season."

# Efficiency in Spraying.

Features that the Practical Power Outfit Must Possess.

**A**LONG with those engaged in various other avenues of primary production, fruitgrowers generally are realising, more and more, that they must earnestly pursue modern methods of production if they are to keep pace with the times, and meet local and foreign competition under reasonably equal conditions.

This is one of the outstanding features of the present age, and finds expression in the many articles of up-to-date equipment, now to be found on the majority of orchards, but quite undreamed of only a few years ago.

Such equipment includes the tractor, engine-driven pumpers, ploughs, graders, etc., light motor transports, and power spraying outfits.

The last mentioned item in particular, is one which has been very widely adopted during the last few years, and on account of the keen interest which orchardists are now taking in all information on the subject of power spraying it may be advisable to relate here a few hints that should be helpful to those desirous of making a wise and safe selection when purchasing what would almost seem to be the inevitable power sprayer.

Naturally, power-driven spraying plants are more costly than the hand pumps, but are now considered to be good investments for the following reasons:—

- (1) They save time and labour.
- (2) Enable spraying to be done more quickly and hence to be put through on those days when it is most likely to have the desired effect.
- (3) They do the work more efficiently.

In endeavouring to make the best selection of a power outfit, therefore, we might well aim at procuring the sprayer that seems most to provide all these advantages to the full. It is here that we can support our own common sense by the experiences and findings of others.

Years of investigation and practical tests have shown that a really good power sprayer must possess the undermentioned essentials:—

- (1) Large capacity vat.
- (2) Even balance.
- (3) Light in weight.
- (4) Low down vat (makes filling easier and ensures safety for hillside work).
- (5) High wheels with wide rims.
- (6) Efficient engine, easy to operate and care for.
- (7) Spray pump that is accessible

Modern orchard equipment includes a power sprayer. The best results can only be obtained by a thoroughly efficient outfit.

Excellence of design and quality of workmanship are essential to a high-class power sprayer.

By selecting the best outfit, growers can do their spraying quicker, more efficiently and at less cost.

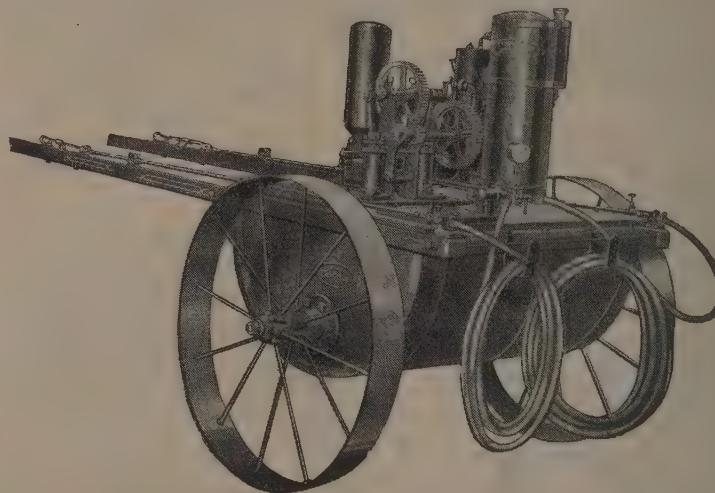
All points of value in construction of the power sprayer and transport are combined in the latest and best of all outfits, namely, the Cooper Perfect Balance Sprayer.

be a minimum of hardship on the horse, and as a matter of fact there will be no difficulty or danger involved in using the outfit on even very hilly orchards.

Thorough agitation of the mixture so that all the ingredients will be thoroughly mixed, is a consideration of the utmost importance.

All of the above specifications can be noted without great difficulty by a prospective purchaser, but the average orchardist not being a trained mechanic, will be more uncertain of his judgment when it comes to the matter of deciding of the different makes of pumps and engines. On these matters, however, if he cannot fall back upon the aid of a friend on whose mechanical knowledge he can safely rely, he may well be guided by the reputation of the firm with which he is dealing, and also by any bona fide references it can produce from practical users on similar outfits.

From the above it will be seen that it is no easy matter to construct a power spraying outfit that meets all



"Cooper" Perfect Balance Power Sprayer.

for cleaning, and which will maintain a pressure of 300 lbs.

(8) Continuous and thorough agitation of mixture.

The object of having a vat of large capacity will be obviously to save time in filling and to eliminate excessive journeying from the orchard to the source of mixture supplies. It should be made to take as much spraying material as possible, without being too heavy for the drawing capabilities of the horse. The design should be such that the engine and pump will be placed in a position that ensures an even balance on the axle, whether filled, partly filled, or containing no material at all. If these conditions be provided for, there will

the essentials of Australian spraying conditions. That it has been possible to do so, however, has been demonstrated to the satisfaction of scores of well-known orchardists who are using the "Cooper" Perfect Balance Plants.

This outfit is manufactured by the Cooper Engineering Co. Ltd., of 350-358 Spencer-street, Melbourne, and 129 Sussex-street, Sydney.

The reports of the many users of Cooper Plants have been invariably of the most encouraging nature, and the firm, consequently, has no hesitation in issuing a list of prominent orchardists who are using these outfits, to those interested in power orchard spraying. (Advt.)

By Appointment to

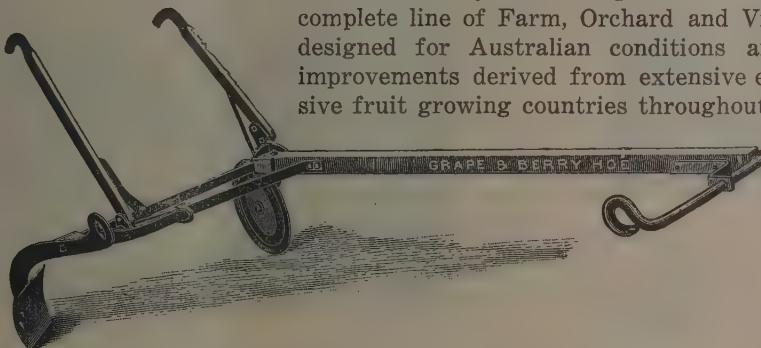


His Majesty the King

BRITISH  
BUILT**MASSEY-HARRIS**HIGH  
GRADE**FARM ORCHARD and VINEYARD MACHINES**

**E**VERY MASSEY-HARRIS FARM ORCHARD and VINEYARD MACHINE is the product of over seventy-seven years' experience in making machines that have given universal satisfaction. You can depend upon it being designed properly, built correctly, to do its work efficiently, and give many years of satisfactory service.

The Massey-Harris Organization is world-wide, and offers a complete line of Farm, Orchard and Vineyard Machines specially designed for Australian conditions and embodying the latest improvements derived from extensive experience in other progressive fruit growing countries throughout the World.



**MASSEY-HARRIS GRAPE AND BERRY HOE**  
ADJUSTABLE TO ANY WIDTH

A well and favorably known tool for the cultivation of Grapes, Berries, Peaches, Plums, small trees of all kinds, and suitable for the eradication of wild berries, etc., encountered in Tasmania. Speedily pays for itself by saving time and labor, and improving the quality and quantity of the fruit. The Disc Castor Wheel, to which Handle is attached, enables the driver to guide the Hoe himself, in and out around post and vine, and to get well in under the wires and bushes, stirring up the soil and taking out all grass and weeds, doing the work not only quickly, but, in many instances, better than by hand. The soil can be thrown to or from the vine or bush, by a simple adjustment, so that the Hoe can be used even when the foliage is at full growth, an impossibility with any other implement. This constant stirring of the soil prevents mildew, and improves the quality and quantity of the fruit. The horse hitches to side of pole, out of the way of vines and bushes.



The Brand  
of  
Superior Quality.

**Massey-Harris Co. Ltd.**  
**570-576 Bourke St., Melbourne**



The Brand  
of  
Superior Service.

BRANCHES IN ALL STATES.  
AGENCIES EVERYWHERE.

## Irrigation and Water Conservation.

### The Value of Reinforced Concrete Pipes.

**W**ATER CONSERVATION and irrigation are recognised necessities in Australia. Hence the large storages on the Murray, the Murrumbidgee and the Goulburn Rivers, the Nathan Dam in Queensland, the Mundaring Weir in Western Australia, and other storages on our Island Continent.

By means of irrigation, big inland cities have sprung up and great wealth, otherwise undeveloped, has

wrecking the channel. An illustration of this will be seen on the photograph herewith.

The new system of water delivery overcomes all the disadvantages of the old.

The Hume pipe system provides for the water to be conveyed by what is really an underground river through everlasting pipes, and the cost of maintenance is nil. The Hume pipe system is being largely adopted in

the new irrigation enterprises; in addition, it is widely appreciated wherever used in sewerage construction and for other purposes.

The pipes are reinforced with steel, and made from exceptionally dense concrete, which protects the steel from corrosion, and makes the pipes everlasting. Steel embedded in concrete, which has been thoroughly consolidated never rusts.

The Hume pipe system is so thoroughly efficient that it has been adopted by irrigation commissions as well as waterworks and sewerage authorities in many parts of Australia.

In engineering works of this description, where comparative costs are being considered, it is necessary to take into account, not simply the first



Old Channel System of Irrigation, showing silting up, at Loveday, South Australia.

RIGHT.—Old method of Concrete Irrigation Channel destroyed by storm, showing that the first cost of such channels is not always an indication of their cheapness. The South Australian Irrigation Department has now replaced this unsatisfactory system of irrigation by Hume Concrete Pipes with excellent results.

been extracted from the soil. Water conservation, however, means more than simply the storage in huge dams, because if it be not also conserved in the process of irrigation, large losses are incurred.

For this reason there has been a gradual but very definite change in the methods of delivering water. Reinforced concrete pipes are now rapidly superseding the old open channel system.

Under the old method (or lack of method) great losses have been incurred—not simply in the loss of water, but also because that in the vicinity of the channels the soil has been rendered sour and worthless through seepage. Hundreds of acres of beautiful orchards have been destroyed by reason of the seepage from unlined irrigation channels. Further, even in lined channels, the loss of water by evaporation has been so great as to be a serious factor, plus the fact that heavy maintenance costs are incurred in cleaning and repairs.

Through leakages, channel supports have given way, eventually



"Hume" System of Irrigation, showing standpipe with 3-way valve distributing water.

cost, but the subsequent charges for cleaning, renewals and repairs.

With the Hume pipe system, the first cost is the only cost, thus it is not only the most efficient, but also the cheapest in the long run. A London Engineering magazine sums up the position thus:—"Where a low initial cost is combined with long life and no maintenance cost whatever, it would seem that the ideal has been reached."

#### A Working Model.

A working model has been installed at the Royal Agricultural Show at Melbourne, which will be demonstrated during Show Week from September 18th to 27th. A miniature irrigation system may be seen at work which will demonstrate the many advantages claimed for the Hume pipe system. The Stand is at 104 Smith-street, Showgrounds.

The Head Office of the Company is at Reliance House, 301 Flinders-lane, Melbourne, with branch offices in the several States and in New Zealand. (Advt.)

## Clearing Land of Trees and Stumps.

Modern Implements Save Labor and Expense.

Trewella Machines Have Achieved World Wide Fame.

**PULLING TOGETHER**" is a well known phrase suggestive of mutual helpfulness in fulfilling the duties and responsibilities of life. "Pulling together" is necessary in the affairs of the home, of industry and business, and in respect of the State and Commonwealth generally. To pull together there must be mutual confidence. Further, when "pulling" one has the idea not of occasional jerky efforts, but of that long, strong action which betokens consistent and permanent progress.

Now, in the realm of industry and mechanics, "pulling together" applies in a special manner when reliance has to be placed by an operator on an implement or machine.

The implements manufactured by Messrs. Trewella Bros. Pty. Ltd., of Trentham, Victoria, have won the confidence of users, not only in the general sense of "pulling together," but because the pulling of trees and stumps is their special feature.

The Trewella implements are of Australian design, and have thoroughly justified all that is being claimed for them under local conditions. The unique excellence of the designs, however, were such that the Trewella firm commenced manufacturing in Birmingham, England, with the result that a world-wide business has been gained and maintained.

### A General Survey.

It is of interest to take a survey of the powerful machinery manufactured by Messrs. Trewella Bros., because this will indicate the wide range of subjects from which primary producers and contractors may choose. The implements include jacks for various lifting operations, also for tree-pulling and grubbing roots, while special grubbers have been designed to suit different conditions.

"Wallaby" jacks are those designed for 2½, 4, and 6 ton lifts. They are variously suited for log-rolling and clearing land of timber. The larger-sized implements are known as the "Monkey" jacks, and include those of 8 and 10 ton capacity. The 8 ton "Monkey" jack was designed for grubbing work, and has proved especially useful for grubbing low down roots and stumps. With the great strength of its pull, plus the advantage of being provided with spears, it saves much of the rootcutting which is otherwise necessary when using the smaller jacks. Land workers generally find it of advantage to have power in reserve, and because of this fact the 10 ton "Monkey" jack was designed, embodying the good features of the previous jacks and adding sundry improvements, which have

given it a unique place in the estimation of users.

With any of the aforementioned equipment a man will get through many times the amount of work he could possibly do without them. Apart from the jacks, which have their special uses, Messrs. Trewella Bros. have manufactured implements specifically designed for tree and stump-pulling. In this connection the "Monkey" grubber possesses unique features, as it will do the work many times quicker than the jacks, and saves much grubbing and root-cutting. For instance, the "Monkey" grubber does its best work when the ground is too soft or wet to use a jack or similar implement. It is generally recommended as the best and cheapest for the farmer, as in addition to pulling out almost any tree or stump, it can be used as a winch for many purposes.

The largest machine in this grade, and one which is of particular value for a big grubbing job or a contractor, is the "Monkey" horse grubber. All the previous implements are worked by hand, but the last mentioned, as the name implies, is worked by a horse. It may be worth noting that the words "Wallaby" and "Monkey" are registered as trade marks, and as applied to land clearing implements, are the exclusive property of Messrs. Trewella Bros. Pty. Ltd. The machines thus named are all guaranteed.

### Essential Equipment.

Having specialised in implements for stump-pulling and land-clearing, Messrs. Trewella Bros. have perfected equipment to make the work effective and capable of being economically carried out. For instance, in supplying a "Monkey" grubber, patent rope fittings, snatch blocks and rope grabs are included.

Then there are root hooks which are special attachments supplied for a little additional cost where needed.

The "Trewella" Bench Gauge has been specially designed for accurate sawyers' bench work, for forest mills. This adds to the efficiency of the mill, is economical, and considerably eases the sawyer's labour.

### Some Interesting Details.

Having given a summary of the serviceable Trewella implements, readers will doubtless appreciate some additional details relative to their construction and methods of operation.

**The "Monkey" Grubber.**—The implement which is held in particularly high esteem is the Trewella "Monkey" grubber, which, because of its utility and the ease with which it can be handled, has thus derived its name.

The "Monkey" grubber is the outcome of the expenditure of much time, thought, and experiment devoted to its perfection. The hand power model, with two men at the handle, will develop up to 24 tons pull, sufficient to uproot almost any tree or stump in the bush. The sector bearing ratchet gear is applied to a steel winding drum, allowing the operator to develop 260 times his own strength. The gearing is automatically controlled, so that it matters not in what position the machine is placed, it will work equally well. All wearing parts are made of the highest grade hardened forged steel. This, together with the employment of a roller sector bearing, reduces friction to a minimum. Power is obtained by a short, handy lever, and the operator can obtain a full stroke without moving from his original position, thus avoiding walking to and fro.

The equipment includes grubber and handle, snatch block rope grab, and 185 feet of British steel cable fitted with simple hook and loop couplings, which can be connected in a moment.

The "Wallaby" jacks for lifts up to 6 ton, and the "Monkey" jacks for the 8 to 10 ton lifts are noted throughout the world for their strength and consistent usefulness. The larger models are fitted with detachable extension pieces termed Spears, these pieces being of great assistance when operating against trees or high stumps, as by getting a grip high up the purchase is greatly increased, and it allows the base of the jack to be placed well back clear of roots.

### Appreciative Users.

Users of Trewella implements express keen appreciation. The implements are built to stand plenty of hard solid work, and with fair usage, regular oiling and reasonable care, will last a lifetime.

Mr. H. H. Williamson, of Excelsior Orchard, Sandon, Vic., writes:—"I am highly pleased with the 'Monkey' jack. Owing to the almost incessant rain, I only worked it about 9 days, and in that time took out about 260 Apple trees, some of which were nearly 30 years old, and over one foot in diameter in the trunk, with spreading tops—nearly buried owing to a flood going over them—and leaving 15 inches of sand nearly 20 inches below the surface. I shoved them over with the long spear, single-handed, and then took them out with the bottom claw."

Messrs. Trewella Bros. Pty. Ltd. have prepared some well illustrated and highly interesting booklets, giving details of the various implements which they manufacture. These booklets are obtainable free on application, from their head office at Trentham, Victoria. A full range of their implements will be shown at the firm's stand at 91 Smith-street, Showgrounds, at the forthcoming Royal Agricultural Show in Melbourne.—(Advt.)

## Orchard and Vineyard Cultivation.

Modern Equipment is Economical.

### Harvey's Implements Possess Distinctive Quality and Merit.

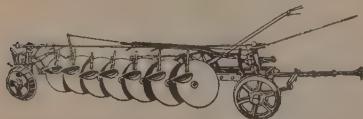
The growth of a business like the growth of a tree, depends on many factors. With the tree, the variety must be right, also the soil and the position. Further, the planter must exercise reasonable skill in giving the correct treatment.

A full-bearing tree, yielding to its utmost capacity, is a splendid sight, giving, as it does, pleasure and profit to all concerned. This is exactly



The Ideal Implement for Cane Fields.  
"Harvey" 4-Furrow Power Lift Tractor Plow. (Model H.D.4.)

analogous to the growth of a business. The kind or variety must be right, the position must be correct, and it must receive the requisite skilful attention to bring it to a success, to keep it healthy and prosperous. In this connection the birth and growth of the business of Daniel Harvey, Orchard Implement Maker, Box Hill, Melbourne, is an example of well merited success.



"Harvey" 7-Furrow Power Lift Tractor Disc Plow (Model H.D.4.).

Starting in a small way in a fruit-growing settlement near Doncaster, Victoria, the merit of the design and workmanship of his orchard implements appealed to the local fruit-growers, so that business flowed in, necessitating the taking of larger premises. Building his success on the sure foundation of quality and service, Mr. Harvey soon found his business growing beyond all expectations. Here was an example of the right kind of a business in the correct situation, growing because of the skill,



"Harvey" 7-Furrow Shortboard Tractor Plow, fitted with D Steel Shares and Circular Coulters. (Model D2).

energy and enterprise of the proprietor. True growth is steady, both in tree and business development.

From a small commencement twenty years ago, Daniel Harvey's business has grown, until to-day it is of considerable importance.

His success is due to the fact that he is able to design and manufacture implements definitely suited for particular purposes. For instance, the first large success came in designing the Swing Handle Plows, enabling the ground to be worked close to the butts of the trees, the horse and operator being clear of the branches. This class of implement is as popular to-day as when first invented.

Looking further afield, Mr. Harvey studied the needs of growers in various parts of Australia, designing implements to suit Orange groves, vineyards, berry gardens, nurseries—in fact, all classes of implements to suit fruit production, and by keeping abreast of the times, finally designing plows and cultivators for use with tractors.



"Harvey" 4-Furrow Stump-Jump Short-board Tractor Plow. (Model S.J.21).

#### Tractor Implements.

Owing to its undoubtedly usefulness and economy in orchard and field work, the tractor has come to stay; but what of the implement behind the tractor? It is just here where the difference lies between success and failure.

"HARVEY" implements are operated by means of a single trip rope, which controls the power lift, for lifting the plow in and out of the ground at the headlands. The levers for



"Harvey" S.F. Backing Off Plow. With shifting or fixed handles. Made in 7, 8, 9 and 10 sizes.

variation of the depth are also within easy reach of the driver, and he does not need to shift from his seat.

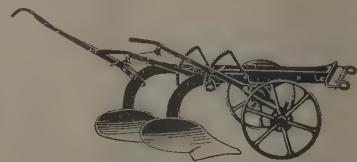
Power farming is now recognised to be the most efficient and speedy way of cultivating, and to this end it is most important to have implements manufactured especially for the tractor.

The wheat and hay growers are now well catered for, as is evidenced by recent trials of Harvey implements held at the Agricultural Colleges in Queensland, New South Wales and Victoria.



"Harvey" No. 10 S.F. General Purpose Plow. High Steel, Goose-neck Beam, Fixed Handles.

At the "HARVEY" Works, Box Hill, Power Lift set Disc and Mould-board Plows, Stump Jump Mould-board Plows, Disc Cultivators, Spring Tooth and Rigid-tine Cultivators, are manufactured, special attention being given to the Lucerne Cultivators, in the production of a strongly built, and efficient Rigid Tyne Lucerne Cultivator.



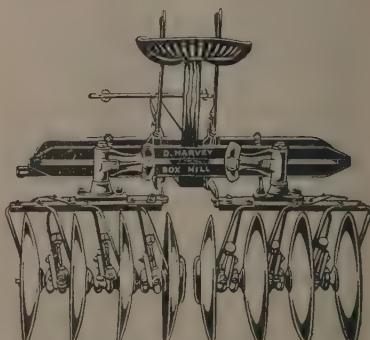
"Harvey" Double-furrow Vineyard and Orchard Plow.

#### A Murray Valley Irrigator's Appreciation.

Mr. W. C. Jolly, of Wentworth, N.S.W., expresses his appreciation thus:—"Re Harvey tractor plow and cultivator. I must compliment you on the way both implements are working, and on the ease with which they can be handled from the seat of the tractor. I thought at first that this would be a two man job, but it is easier for one man than for two. My block is a pretty severe test as a long channel (all angles) runs right through and I can manage them with ease. I have just bought a Harvey double-furrow horse plow, and find it very satisfactory.

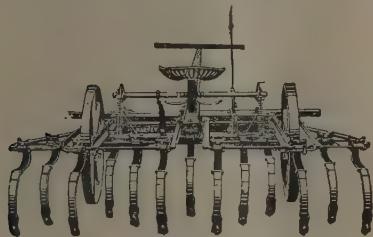
#### "A Class by Itself."

It is of great encouragement to the manufacturer when users not only



"Harvey" Vineyard Disc Cultivator.

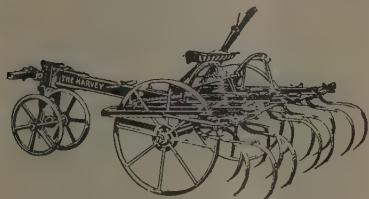
express their appreciation, but give their reasons. In this connection, the letter from Mr. A. W. Akehurst, of Scoresby, Victoria, is interesting. He states:—"I desire to convey to you our appreciation of the Five-Furrow Tractor Disc Plow recently purchased from you. We are using the plow both for orchard work and for preparing the ground for early autumn seeding, in both of which it is giving absolute satisfaction. The ease with which it can be controlled from the tractor seat, and its capacity for following the tractor on sharp turns,



"Harvey" Spring Tooth Riding Cultivator.

make it an ideal tractor plow. In stating this, I am not relying on my own judgment entirely, but on the opinion of a man of very extensive experience, who 'tried out' the plow. He remarked: 'I have driven pretty well every tractor plow, but "Harvey's" is in a class by itself.'

Harvey's tractor implements embody strength and durability, combined with efficient service and speed.



"Harvey" Spring Tooth Riding Cultivator, with forecarriage.

Harvey's Spring Tooth Cultivators with power lift are built for orchard cultivation; also, a Rigid Tyne is built for Lucerne Cultivation. They are fitted with broad tyred wrought iron wheels with renewable axles and boxes. Spare parts are available at the shortest notice.

Apart from the tractor plows and cultivators, the Harvey implements include Disc Plows, Mouldboard Plows, one and two way Disc Cultivators, Spring

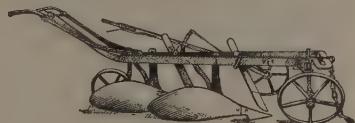


"Harvey" Orchard Plow.

Tooth Cultivators, Nursery Garden Cultivators, Vineyard Horse Hoe and Orchard Harness. About each of these much could be written describing

their various fine points of excellence. This, however, is unnecessary just here, as illustrated booklets have been prepared, and are available free on application. It is of interest, however, to place on record the keen appreciation of various users in all branches of fruit production.

A business which is built on the unshakeable foundations of confidence and satisfaction must of necessity

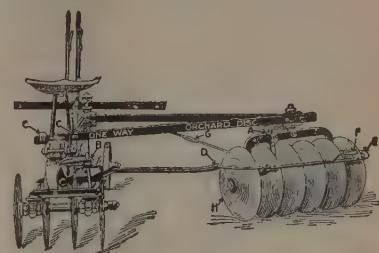


"Harvey" 2-Furrow Shifting Orchard Plow.

develop. It is in the attention to detail where Daniel Harvey scores his success, for in satisfying the wants of a grower who has a particular problem, it has been found that this was typical of so many others that the new attachment or adjustment created an ever widening circle of those who have learned to appreciate the skill with which the engineering work of Harvey's factory is attended.

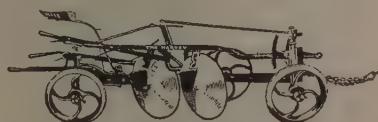
The difference in varieties of fruit may be slight, but where one variety

i.e., their strength, lightness and capacity to work up close to the butts of the trees, there is an implement which has particular merit. This has been termed the Grape hoe, and while it is of extraordinary value in the cultivation of Grapes and berries, it is also unequalled for ordinary orchards, vineyards and citrus



"Harvey" One-Way Orchard Disc Cultivator.

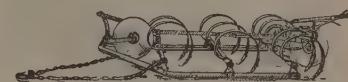
groves. It will cultivate close up to the vine or tree without injuring either, and by reversing the blade the earth can be thrown up against the vine or tree as desired. It is reckon-



"Harvey" Light 2-Furrow Orchard Disc Plow.

possesses particular merit it is sought for by the general public. For instance, the "Delicious" Apple has just that charm of flavor which makes it distinctive. The "Jonathan" Apple is well known for its flavor, yet both are simply "Apples." The "Rymer" is sometimes sold as "Rome Beauty," yet the difference in flavor is most marked.

Now, as regards Harvey's plows, cultivators, and other orchard and vineyard implements, it is the extra "something" which makes them distinctive. The fine points have been

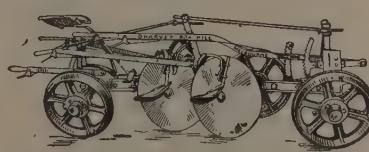


"Harvey" Spring Tooth Citrus and Orchard Cultivator.

ed to do the work of at least ten men, and to earn its cost many times over in a single season. A skimmer blade attachment and a fine-tine cultivating attachment can be fitted to the Grape hoe.



"Harvey" Grape and Berry Hoe.



"Harvey" Heavy Furrow Orchard Disc Plow.

so carefully studied that users become not merely satisfied, but enthusiastic. One grower wrote in to say that with the aid of a Harvey plow he could do his work "smilingly."

Apart from the well-known features of the Harvey implements,(

As on previous occasions, Mr. Harvey is making a first rate exhibit at the Royal Agricultural Show at Melbourne from the 18th to 27th September. Here will be found implements and equipment suitable for all classes of soil cultivation. The Stand is at No. 29 Main Avenue, Showgrounds, and a cordial invitation is extended to growers to pay a call. Advt.)

## New South Wales.

### SUCCESSFUL ORGANISATION AT ORANGE.

The annual meetings of the Orange Fruitgrowers' Association and the Orange Fruitgrowers' Forwarding Company were held on July 3.

The annual report of the Hon. Secretary (Mr. Lewis Thompson) showed that much progressive work had been accomplished. The membership totalled 233.

The report goes on to state that early in the current year, the railway authorities demanded that all fruit must be weighed, which caused great inconvenience and delay. Eventually, however, the Association succeeded in persuading the Commissioners to revert to the old order of counting 40 bushels to the ton.

Owing to the efforts of a band of willing helpers a sleeper platform was erected on which to stack empty cases, thus keeping them in better condition than previously. The Commissioners have been approached requesting the addition of more louvres to the 40 ton trucks.

A creditable exhibit of fruit was staged by the Association at the recent Sydney Agricultural Show, the whole of which was sold and the proceeds donated to the Public Hospital.

Owing to Queensland being unable to send her quota for the Empire Exhibition, the Orange district came to the rescue and sent six consignments of fruit through the Association.

Several tons of seed Peas were procured by the Association, and sold to members at 32/- per bushel, which represented a great saving, as the moment these stocks were exhausted, the price rose to 45/-.

They were also successful in obtaining substantial reductions in cartage from Darling Harbor to the markets, which represented £350 directly saved in seven months.

The Auditors' Report was also received, showing an amount of £41/7/8 revenue from subscriptions, after paying capitation fees and working expenses amounting to £146/12/7. Sales of orchardists' requisites during the period amounted to £4,455/10/1, while the purchases, including freight, amounted to £4,298/11/9. The gross profit earned amounted to £266/8/10 for the twelve months, equalling 5.98 per cent. on sales against the previous year's percentage of 4.33.

The total working expenses amounted to £48/10/11, leaving a net profit for the twelve months of £217/17/11, which has been transferred to Accumulated Funds Account. Orange Fruitgrowers' Forwarding Company.

The Secretary of the Forwarding Company also submitted his report showing that for the six months ended 25th June, 1924, the net profit for that period was £2,285/16/- No profit was made in respect of cartage from Darling Harbor to the City

Markets, as growers were only charged with the exact cost of same to the Forwarding Company. The fact, therefore, must not be overlooked that cartage arrangements were handled by the Forwarding Company on which no profit was made, the growers receiving direct therefrom substantial benefits.

The results of operations must be considered highly satisfactory, as in addition to a profit representing 32.42 per cent. on gross freight receipts, growers received the benefit of reduced cartage rates.

An Apple and Pear Growers' Association has been formed at Batlow, N.S.W. Mr. A. E. Herring is president; Messrs. C. Smith and N. H. Case vice-presidents; Mr. R. T. Sim, treasurer; and Mr. C. Buchele secretary.

### SUBSCRIBERS' PAYMENTS RECEIVED.

The following are the subscriptions received from July 20th to August 20th, 1924. The month quoted in parenthesis indicates to what date the subscription is paid. These are exclusive of the subscribers who have paid to local agents or to our offices in the various States:-

M. T. Amos (April, '25), E. C. W. Allen (June, '25), G. Arbuckle (July, '25), W. P. Aylett (July, '25), W. R. A. Bastow (April, '26), H. Beaumont (June, '25), E. C. Borghese (Aug., '24), E. Brighton (Aug., '24), J. E. Brenton (Nov., '24), W. H. Calvert (Aug., '24), J. S. Cant (Nov., '24), W. Cawood (July, '25), M. E. Crawford (July, '25), R. H. Crossman (April, '25), W. H. Crow (Aug., '24), S. T. Bridges (Aug., '24), J. J. Darby (June, '25), J. R. Dalton (Aug., '24), W. R. Davies (June, '25), A. S. Davey (Feb., '25), Donkerhoek Fruit Syndicate Ltd. (S. Africa), (May, '25), H. R. Duncan (Feb., '25), E. V. Fankhauser (May, '26), F. Finger (July, '25), Ford Franklin (Oct., '25), T. L. Gepp (Aug., '24), H. Freame (July, '25), E. Ferguson (Jan., '25), C. Gill (July, '25), W. S. Glasson (June, '25), A. G. Glover (Aug., '25), Gibbs, Bright & Co. (Adl., '25), Govt. Experiment Farm (Yanco) (Aug., '24), D. Graham (Aug., '25), C. Guilfoyle (July, '25), A. G. Gunner (May, '25), A. E. Halliday (Aug., '24), A. J. Harvey (Dec., '24), G. Harris (April, '25), H. H. Hawken (July, '26), W. P. Heath (Aug., '24), H. Hick (June, '25), C. A. Higgs (July, '25), C. H. Holder (Sep., '25), J. E. Holland (July, '25), H. V. Howarth (June, '25), W. T. Hudson (July, '25), Hyem, Hester & Co. (July, '24), F. Jacob (Feb., '25), J. W. Jamieson (July, '25), S. M. & A. Jose (July, '25), D. Kerr (May, '25), J. H. Knappstein (Aug., '24), E. Lawford (July, '28), T. B. Lamont (Sep., '25), R. Lowe (July, '25), M. Lewis (July, '25), T. A. Lornie (July, '25), E. J. Lock (July, '25), A. Malcolm (April, '25), R. Mays (June, '25), W. J. Matthews (Aug., '24), F. W. Mann (July, '25), J. J. Moore (July, '25), W. E. Muspratt (July, '25), J. B. McAlpin (July, '25), A. McCully (July, '25), H. K. McKay (June, '25), J. M. McKenzie (July, '25), D. McKenzies (April, '25), McKillop & Sons (June, '25), F. Neuparth (July, '25), J. Notley (June, '25), O. Nobelius (Mar., '25), J. Passmore (Dec., '24), T. Petty (July, '25), J. Petty (Feb., '26), L. Pietsch (Jan., '25), J. Plant (Dec., '24), W. R. Pounsett (June, '25), H. Rayner & Co. (July, '25), J. B. Raymond & Sons Ltd. (June, '25), W. Richardson (June, '25), Robinson & Sons (July, '25), A. Robertson (Aug., '24), H. N. Rossell (June, '25), R. A. Routley (Sep., '24).

## Classified Advertisements.

### Wanted and For Sale.

Advertisements under this heading, which cannot exceed one inch, will be classified as far as possible.

### Prices are as follows:-

Casual Advertisements, one or three months—9d. per line of six words. Nine lines to the inch.

Contract Advertisements, six or twelve month, 6d. per line of 6 words, 9 lines to the inch.

Send cash with order.

### BOOKS.

PRUNING FRUIT TREES, By C. Quinn. Illustrated. 5/- posted—"Fruit World," 9 Queen Street, Melbourne, Vic.

RICHARDISTS. TOBACCOLEAF FOR SPRAYING. Order while supplies are available. 56/- cwt. on rails, Melbourne.

BRUNNING,  
64 Elizabeth Street, MELBOURNE.

## WE BUY LEMONS

Green Citrons and Shaddocks, Seedling Oranges, Tomatoes, Cherries for crystallising, Loganberries, Raspberries and Strawberries, Passion Fruit.

C. M. BROOKE & SON,  
Whiteman St., South Melbourne, Vic.

### TESTIMONIAL FOR A.M.S.

Mr. T. A. Dickson, Chemist, Geelong. Dear Sir,—Just a line to thank you for your wonderful A.M.S. I have used several bottles, and am now almost quite recovered from the indigestion I have suffered from for years, and the almost Chronic Neuralgia in my wrist and knee. Wishing you all success with your splendid A.M.S., yours gratefully, Edith H. Primrose, Park-street, South Yarra. Sold by all chemists and country storekeepers at 3/- per bottle, by post 3/6. Manufactured by T. A. Dickson, Chemist, Geelong, Vic.

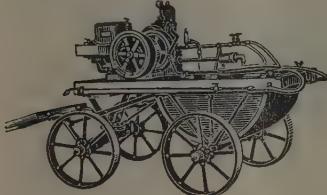
J. C. E. Ruediger (Dec., '24), Rutherglen & Dist. Vinegrowers' Assn. (June, '25), San Remo Orchard Co. Ltd. (April, '25), J. Sandow (Aug., '24), H. Scarlet July, '25), C. A. Setterberg (Feb., '25), Settlers' Club (May, '25), R. Sernpell (June, '25), S. Smith (Aug., '24), W. M. Smith (June, '25), T. Somerville (Aug., '24), A. Stier (Aug., '25), S. Stott (Dec., '24), A. W. Stuart (May, '25), Swan Settlers Assoc. Ltd. (Mar., '25), E. Morley Taylor (Aug., '24), A. F. Thiele (July, '25), A. W. Thiele (Sep., '25), E. Thomas (July, '25), J. Thomas (July, '26), Dr. G. F. Travers (July, '25), W. B. Tucker (June, '24), J. Tully (July, '25), L. H. Vear (June, '25), Water Con. & Irrig. Com. (Leeton) (June, '25), F. Ward (June, '25), P. G. Webb (July, '25), S. Whitten (July, '25), J. S. Wilkinson (June, '25), A. W. Wise (June, '25), H. Witchell (July, '24), A. P. Wishart (Aug., '24), Wood Omerod & Co. (April, '25), G. T. Worcester (Aug., '25), Wooring Fruitgrowers' Co-op. Co. Ltd. (July, '24), S. Youden (Mar., '25), H. Zelius (July, '25).

## Orchardists and their Requirements

The "Sunshine" Royal Show Exhibits.

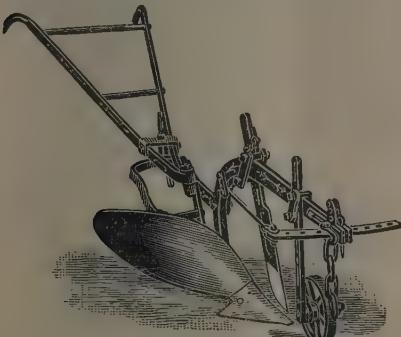
### A Comprehensive Display.

HOW great is the importance of Victoria's fruitgrowing industry will be realised when it is stated that 123,000 acres in this State are under fruit and vines; that the annual production is worth £2,000,000; and that annually £1,250,000 is spent in Australia in purchasing equipment. Messrs. H. V. McKay Pty. Ltd., of Sunshine, (Vic.), in their comprehensive scheme of manufactured implements for the man on the soil, have not overlooked the fruitgrower. At the forthcoming Royal Show, the firm will have a very large exhibit, and orchardists will be especially interested in such lines as the following that will be on view:—



The "Sunspray."

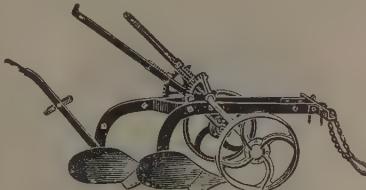
A most successful and effective spraying outfit, specially designed for use in the Australian orchard and vineyard: works in combination with 2 H.P. Sundex Engine; vertical pump with twin cylinders lined with gun metal, hoses or spray gun, tank of 80 gallons on transport of seasoned timber, of low draught with steel wheels. In every detail this outfit will be found the best and most economical on the market.



The "Sunstar" No. 1.

The No. 1 Sunstar s.f. plough entirely of steel, will be found well-balanced and easily held. The Mould-board is of hard-surface steel, and will completely bring up all weeds, turning the sod well over. The beam

and foot are one piece steel, and unbreakable. The hitch is reversible. Movable handles allow close work up to the trees. No. 2 Sunstar is a 2-horse plough of similar design but longer and stronger.



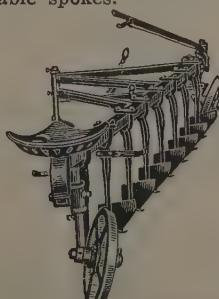
The "Newlight" D.F. Plough.

This is an ideal orchard plough of light but strong construction. The levers are down when in working position so that the plough runs low without destruction to branches. It will plough to within a few inches of the trees. High wheels and wide tyres give easy running. Only weighs 2cwt. 10lbs., and can be supplied with knife or circular coulters.



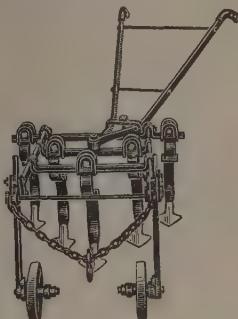
"Sunshine" Fertilizer Drill.

This drill is designed for sowing small or large quantities of fertiliser between rows of vines or fruit trees. The width is adjustable up to 28 inches. It is fitted with rigid tyres and steel boots, and will sow to any desired depth from 50lbs. to 8cwt. per acre. It is stoutly built and durable, being mounted on steel wheels with replaceable spokes.



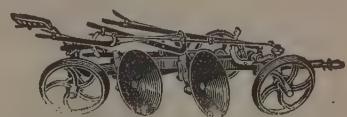
8-furrow "Sunskimmer"

For 2-horse orchard work the 8-furrow "Sunskimmer" plough is a great favorite. It is a 3-wheel implement, weighing 2cwt. 1qr. 7lbs., yet with its steel frame, well-braced and steel, will stand up to any trial. Will work close to the trees. The furrows are 5in. wide and total a width of cut 3ft. 2in. The cast shares and small mould-boards turn the soil and bury the weeds perfectly.



"Sunjunior" Cultivator.

This is a really splendid single horse cultivator, weeder and grubber, which is supplied with shifting handles for close work in the orchard. It has 5 tyres and cuts 30 inches wide when equipped with 6in. points, but if desired 1½, 2¼, and 4in. points can be substituted. It has two wheels which regulate the depth of work. By removal of central tyres, rows may be straddled and cultivated each side. It is of ample strength for 2-horse work in hard ground.



"Sunleaf" Orchard Plough.

This is specially built for orchards and a good seller. Discs adjust for more or less breast-work or undercut. It is so arranged that it can plough close to the trees when ploughing away, and the levers work downwards to depress the discs instead of the reverse in ordinary ploughs. The highest point is the seat which is 2ft. 10in. from the bottom of the furrow.

Doubtless every orchardist who can possibly spare the time will be visiting the Melbourne Royal Show, commencing 18th September, and he will be overlooking his own interests if he does not spend some time at Stand No. 82 in Skene Street, where Messrs. H. V. McKay's permanent show exhibit is located. This cannot be easily missed for it is immediately opposite the railway entrance. The firm has also fine showrooms at 664 Bourke St. West, and a standing invitation is given to all fruitgrowers to visit their great Australian Implement Manufacturing Works at Sunshine, which are reached in a 20 minute run by electric train from Spencer Street.

# Orchard Pests Can Be Controlled by Spraying.

Tested Remedies for Insect Pests, Scale and Fungus Diseases.

A review of Messrs. Jaques Pty. Ltd., Burnley, Melbourne.

**T**HE claim to be one of the oldest and most successful manufacturers of fruit spraying materials, as made by Messrs. Jaques Pty. Ltd., of Burnley, Melbourne, Vic., and as spraying is such an important part of the orchardists' cultural routine, the following information supplied by this company may be useful to the orchardist:—

In his fight against the various insect and fungus pests, scale, etc., the fruitgrower is able to call to his assistance the best brains of applied commercial chemistry to assist him in his necessary work. Most fruit-growers have learned by experience the art of spraying, and are aware of the best times of the year to apply the various remedies. The necessity for skill in these matters is so obvious that it need not be stressed. The emphasis of this article is on the quality of the spray materials which the fruitgrower must use in his necessary work of spraying. In this connection, Jaques' "Elephant" brand sprays have won and maintained an excellent reputation on the Australian and New Zealand markets.

In addition to passing all practical tests, these "Elephant" brand sprays have also received high commendation from official Government sources. This is an achievement of which the proprietors of these purely Australian manufactures are proud.

#### Arsenate of Lead (Paste and Powder).

In some recent seasons which have been particularly bad with attacks by the Codlin grub, queries were raised in the minds of growers as to whether arsenate of lead was really effective. The question was answered with the utmost definiteness by Mr. J. M. Ward, who, at the time, was Government Fruit Instructor to the Tasmanian Government. At a meeting held at Franklin on April 2nd, 1921, Mr. Ward stated that the Departmental Chemist had analysed various samples of arsenate of lead, and found that they contained more than the amount of arsenic pentoxide that is required by law. Jaques' "Elephant" brand was stated to contain 31.60 per cent. arsenic pentoxide. He then quoted the experience of Mr. J. Searle, an orchardist of Middleton, Tasmania, who sprayed with Jaques' "Elephant" brand of arsenate of lead on November 18th, 1920, at a strength of 1 lb. powdered "Elephant" brand to 40 gallons of water, and on January 10th, 1921, with "Elephant" brand, paste form, 2 lbs. to 40 gallons of water. Two rows were left as a check. The latter were very much affected with the grub, whilst the

sprayed area was practically free of the grub. These matters were fully reported at the time in the Tasmanian press.

Messrs. Jaques Pty. Ltd., the manufacturers of the "Elephant" brand spray mixtures give the following concise points in favor of their preparation:—

1. Suspends for a greater period than any other brand.
2. Approximately one-third of the powder is arsenic pentoxide—the killing property—whilst the paste (which contains nearly 50 per cent. of moisture) has approximately 17 per cent. of arsenic pentoxide.
3. Is composed of the finest particles ever offered for sale.
4. Exceedingly adhesive.
5. As cheap as any other locally manufactured lead, and much cheaper than any imported brand.
6. Uniformity of quality is assured.

The practical result of the foregoing is revealed in the fact that the business has increased nine-fold in six years, thus demonstrating the outstanding merit of the goods supplied and the continued confidence reposed in them by the growers.

In South Australia a similar test to the one reported above was carried out by the Department of Agriculture with the result that Jaques' "Elephant" arsenate of lead was shown to have most efficient killing qualities, at the same time remaining in suspension in a remarkable manner. The test referred to showed that after standing for 30 minutes, it retained a suspension power of 36.70 per cent., the nearest approach of any other brand being 17.9 per cent., and the lowest 1.7 per cent. That was the last test made by the South Australian Department. However, the previous test made two years earlier also bore out the remarkable superiority of "ELEPHANT" BRAND ARSENATE OF LEAD.

The manufacturers recommend "Elephant" brand arsenate of lead to be used as follows:—Mix the paste well with a little water, then pour same into the amount of water required, using 1 lb. of the paste to every 20 gallons of water. Powder is used at half that strength.

#### Lime-Sulphur.

In the manufacture of Lime-Sulphur, Messrs. Jaques' Pty. Ltd. claim to be practically the Australian pioneers. From the very commencement, the preparation was favorably received, the appreciation increasing season

by season as the efficacy of the preparation became apparent.

Jaques' "Elephant" brand Lime-Sulphur is noted as an effective scalicide, fungicide and insecticide. For spring spraying to check fungus diseases, "Elephant" brand Lime Sulphur has won well merited distinction.

For summer spraying against Black Spot and other fungoid troubles, the manufacturers recommend the use of 1 gallon of spray to approximately 35 gallons of water. No spraying, however, should be done in the hot sunshine.

For winter spraying against Black Spot, San Jose Scale, Mussel Scale, Red Spider, Shot Hole, Curl Leaf Scab, growers find it effective to use 1 gallon of spray to 10 gallons of water, spraying as soon as the leaves come off. "Elephant" brand Lime-Sulphur solution contains approximately 25 per cent. of soluble sulphur, the Beaume reading being 29 degrees.

The manufacturers claim that "ELEPHANT" brand LIME-SULPHUR is the most uniform and reliable on the market because it contains the correct combination of LIME and SULPHUR, which is necessary to obtain the best results, and it has the highest percentage of soluble sulphur contents.

#### Red Oil.

In order to have a wider range of approved spray mixtures, Messrs. Jaques' Pty. Ltd. two years ago commenced the manufacture and sale of Red Oil. "Elephant" brand Red Oil is largely used on deciduous trees in the Winter to fight various insect and scale pests, whilst on citrus trees the Red Oil is used in summer. The appreciation of "Elephant" brand Red Oil is seen in the fact that sales are rapidly increasing, and the growers who have again used "ELEPHANT" Brand Prepared RED OIL this year have already testified to its effectiveness.

#### Spray Spreader.

To meet the wishes of some orchardists who believe that better results are obtained by using a spreader for arsenate of lead, Jaques' Pty. are now manufacturing this line, which will give satisfactory results to those who use it.

#### Royal Agricultural Show.

Orchardists who visit the Royal Agricultural Show, Melbourne, are invited to visit or telephone Messrs. Jaques' Pty. Ltd. at Madden Grove, Burnley, when all inquiries will be gladly answered. 'Phone No. J 2008. —(Advt.)

## Power For The Orchard

Some New International Harvester Company Products.

**I**N no other walk of life are the manifold advantages of mechanical power and the benefits that result from its use so apparent as in the life of the man who tills the soil for his living. The long hours of hard labour which for centuries have been regarded as the unenviable birth-right of agriculturists the world over, have been simplified by the introduction of power machinery; the small areas that took so long to cultivate are now being enlarged, and their yield gathered in less time, the margin between the gross return and the cost of production is greater, which is but another way of saying that pro-

fruit trees becoming entangled in the wheel spokes and being damaged thereby. A low seat, low steering wheel, and low breather pipe, com-



No. 11 Orchard Tractor-Disc Plough.

plete the orchard equipment of the McCormick-Deering tractor, and make it unusually suitable for close tree work. In addition to these it embodies other valuable characteristics, such as a guaranteed ball-bearing crankshaft, valve-in-head engine, high-tension magneto, automatic oiling system, and many other features that make it an ideal power unit for either belt or drawbar work in any kind of orchard.

**Tractor Plows.**—With the advent of the tractor into the sphere of orchard cultivation, the question of providing implements to work in conjunction with it is one that naturally suggests itself. The International Harvester Company has answered this question in a very convincing manner by the production of orchard tractor plows,

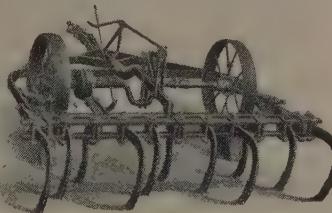


McCormick-Deering Orchard Tractor.

fits are increased, and in addition, living conditions are better and greater contentment the result.

In the production of up-to-date machinery such as is playing a vital part in the amelioration of the farmer's lot, the International Harvester Company of Australia Pty. Ltd. has ever been to the fore. Although pages could be devoted to a review of the complete International line of machinery, it is proposed here to deal only with a few of this company's latest products in the way of power equipment for orchard work.

**Tractors.**—McCormick - Deering tractors, which leaped into favour amongst farmers almost with the landing of the first machine in Australia, have proved so adaptable to orchard work that the manufacturers gave special consideration to the question of providing them with features that would further enhance their



No. 11 Orchard Tractor Cultivator.

which are made in the disc and mouldboard types. These plows, which are specially designed for use with a tractor in orchards should recommend themselves to orchardists by the ease with which they can be operated from the tractor and by the low set of the levers which permits of their working underneath the low branches of trees. Simplicity is the keynote of their construction, for one pull of the trip rope causes the bottoms to enter the ground, while another pull raises them, the lift taking effect on all three wheels, thus keeping the plow level and enabling it to rid itself of surface rubbish.

**Tractor Cultivators.**—The No. 11 orchard tractor cultivator is designed



No. 4 Orchard and Vineyard Tractor Plough.

value to orchardists, and to this end a set of protective fenders or guards were fitted over the rear wheels. The construction of these guards is such that they act as a preventative against the low hanging branches of

much on the same lines as the plows in that the manipulation of the trip rope from the tractor seat raises the feet, while another pull sets them in the ground again. This cultivator is the essence of simplicity, for beyond the trip there are no levers of any kind to be adjusted. It is fitted with reversible points, and has good wide tyres which prevent it from sinking in loose soil.

**Motor Trucks.**—In the motor truck many orchardists and market gardeners are finding a more economical and satisfactory method of moving their produce, for besides cutting the time spent on the road, the motor truck enables them to handle a greater volume per trip and to deliver it in better condition. The new model International motor trucks have gained the unanimous and unqualified approval of business men and agriculturists all over Australia by their dependability and low cost of operation, and in their many outstanding characteristics orchardists will find convincing proof of their efficacy as a reliable and speedy form



New Model International Motor Truck

of transportation. International motor trucks can be equipped with bodies suitable for any kind of orchard or garden work, and embody many desirable features such as a four cylinder valve-in-head engine with removable cylinders, a ball-bearing crankshaft, internal gear drive rear axle, auxiliary rear springs and a Bosch ZU-4 high-tension magneto which indicate in no uncertain manner their ability to maintain that speedy, enduring service demanded by market gardeners and orchardists.

**Show Exhibits.**—During Show Week the full International line will be exhibited. The company has three displays at the Show, and a special exhibit in its showrooms, 543-555 Bourke-street, Melbourne. Besides the machines shown in the dairy and motor sections at the Show, their main pavilion is this year being given over to a tractor and tractor implement display.

**Free Cinema Show.**—A novel innovation in the shape of a free cinema show is also being staged at this pavilion, where moving pictures showing the tractor at work on farms and orchards of various kinds will be screened. Farmers and orchardists would be well advised to see these displays, for they are full of interest, illustrating, as they do, the magnitude and variety of the world-famous International line of agricultural machinery.

## Spraying Fruit Trees and Vines.

Growers Recognise the Necessity for Using High Grade Preparations

### "Swift's" Arsenate of Lead Maintains its Popularity.

**T**HE SPRAYING OF FRUIT TREES is now such an established practice amongst all fruit producers that the necessity for this operation needs no undue emphasis. The grower knows that unless he sprays and does his work thoroughly, he will be the loser. In the art of spraying, the personality of the operator comes in, because the work needs to be done with precision and thoroughness, selecting the correct times for doing the work.

No one now disputes the necessity for spraying with arsenate of lead to check the codlin grub, and all manner of fruit and leaf eating insects. Some of the fine details in the actual work of spraying, especially those relating to the correct time for commencing the work, are still a subject of debate, but several points stand out clearly—(1) The necessity for spraying; (2) the use of approved remedies; (3) adequate equipment.

Admitting the first point, it is in regard to the second that the special attention of readers is directed to Swift's Arsenate of Lead. It is a well known fact that the first spray of this character introduced on to the Australian market was Swift's. It was then, and has been ever since, the standard of excellence.

There is a well known maxim in business that price is a good salesman, but quality is a better, and when included with the word "quality" the ideal of service is incorporated, and it will be seen that a long distance has been traversed towards rendering that mutual service between manufacturer and user that goes so far to establish business confidence and make for stability. The programme set out by the successful business man contains these three essentials—(1) service; (2) quality; (3) price.

The persistence with which the codlin moth infests orchards is so pronounced that growers, whilst knowing the value of arsenate of lead, are discriminating as regards the particular kind used. In this matter, it is unsafe to generalise—in fact, it is as necessary to specialise in regard to the brand of arsenate of lead as with the kind or variety of fruit which a grower contemplates planting. No man setting out an orchard decides *simpli* to plant Apples, Pears, Peaches, etc., but he goes most closely into particular varieties. If desiring to plant Apples, the grower considers the possibilities in setting out Jonathans, Sturmers, Cleoovatras, Delicious, Stewarts, London Pippins, etc., and the same is true in regard to every class of fruit. It is the same discriminating specialisation which

claims for Swift's arsenate of lead—that is, not only has a decision to be made to use an arsenical compound, but the particular brand is of pressing importance.

A fairly satisfactory gauge with the popularity of Swift's arsenate of lead is in the fact that since its introduction there has been a steadily increasing demand throughout Australia and New Zealand. The manufacturers of Swift's state without hesitation that the ingredients and process of manufacture of this article are such as to give the highest standard of excellence. Not only has the arsenical strength and killing power of the spray mixture been decided on after the most careful laboratory tests, but, in addition, Government tests have demonstrated the necessity for the poison to remain in suspension in water. This is one of the features which users of Swift's arsenate of lead have found to be of the highest importance. Further, users state that Swift's has the quality of adhesiveness which makes it of outstanding merit. Once it has time to dry on the leaves of trees or vines, ordinary rains do not wash it off, and it remains effective for a long period. The fineness of Swift's arsenate of lead is such that if a thin covering be spread over the leaves and fruit this is quite effective in causing the death of any chewing insect which eats even a small portion of the poison.

Swift's arsenate of lead stands in the category of valuable discoveries which have benefited primary producers, particularly fruitgrowers.

The method of applying arsenical sprays differs in the several States, and in particular districts, according to the earliness or lateness of the season. The generally accepted practice, however, is to give the first thorough spraying before the petals fall, using 4 lbs. of Swift's arsenate of lead to 100 gallons of water, this to be followed by a second spraying within 30 days. A third spraying is usually given about a month after the second, then, as the fruit develops, it is advisable to keep a light coating of Swift's arsenate of lead on the leaves and fruit to destroy the later buds. It is advisable to use a power sprayer and a fine nozzle.

Swift's arsenate of lead is invaluable for destroying not only the codlin grubs, but all manner of leaf-eating insects, including Looper Caterpillars, Orange Butterfly, Emperor Gum Moth, Painted Apple Moth, Pumpkin Beetle, Slugs of Pear and Cherry, Strawberry Beetle, Cutworm Moth, Vine Moth, and various other pests of this character.

Swift's arsenate of lead has proved a good friend to the fruitgrower in all the States of the Commonwealth, and in the Dominion of New Zealand its effectiveness has never been questioned. Swift's is the hall mark of quality. Because of its killing strength, its quality of holding in suspension in water, its adhesiveness, Swift's arsenate of lead goes further and does the work better than if it lacked any of these essential qualities. Users have thus the satisfaction of knowing that their expenditure in this world famous spray mixture is an economical investment.

### Users are Appreciative.

The fact that Swift's arsenate of lead has fulfilled all expectations is seen by the many spontaneous expressions of appreciation that have been received by the manufacturers. These testimonials have come from all parts of Australia and New Zealand, and speak in high terms of praise of the excellence of the preparation.

Swift's arsenate of lead has a worldwide reputation, large quantities being used in U.S.A., Canada, South Africa, Europe and elsewhere. Swift's is not the only good thing that has come from America, for that great country has sent to us the Jonathan, Delicious, Rome Beauty, and other Apples, as well as the Washington Navel Orange, in addition to many other excellent and world famous varieties of fruits and vegetables.

Swift's arsenate of lead is manufactured after careful laboratory tests. The manufacturers have retained the services of highly qualified chemists, thus making sure that not only is their formulae correct, but that every keg of the spray mixture is up to standard.

### Reduction in Price.

The distributors of Swift's arsenate of lead have very much pleasure in announcing that the reductions in price, which were initiated last season are still maintained and 100 lb. kegs are retailed at 1/3 per lb. Swift's arsenate of lead will be displayed at the Royal Agricultural Show to be held at Melbourne from 18th to 27th September next, at the stand of Messrs. D. & W. Chandler Pty. Ltd. Supplies are also available from the following:—

- Rocke, Tompsett & Co., 292-298 Flinders-street, Melbourne, Vic.
- D. & W. Chandler Pty. Ltd., 290 Brunswick-street, Fitzroy, Vic.
- E. & W. Hackett Ltd., 73 Rundle-street, Adelaide, S.A.
- Harris Scarfe & Sandovers Ltd., Hay-street, Perth, W.A.
- F. W. Heritage & Co., Hobart and Launceston, Tasmania.
- Anderson & Co., 399 George-street, Sydney, N.S.W.
- Australian Drug Co. Ltd., 19 O'Connell-street, Sydney, N.S.W.
- Holdsworth, MacPherson & Co., George-street, Sydney, N.S.W.
- Taylor & Elliotts Ltd., 154 Charlotte-street, Brisbane, Queensland.

—(Advt.)

# The Fruitful Ford.

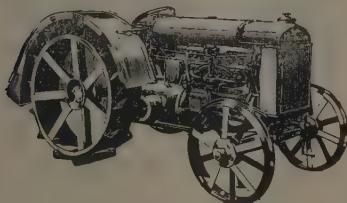
Products that Assist Production.

Fordson Tractors : Ford One Ton Trucks : Ford Universal Cars.

THE tenacity of Australians, which became a recognised national trait during the Great War—has never been shown in a more pronounced degree than in the fruit industry of the Commonwealth. Those who know the early struggles of fruitgrowers in Australia to find a place for their products in the world's markets, are well aware of the unwavering determination which was necessary in order to bring the position of the industry to the place it occupies to-day.

Now the Australian product holds an enviable place in the world's trade, in fruit, both green and dried, and has become of such importance that it is fourth in the list of the country's primary products.

Most of the success of fruitgrowing of recent years can be set down to the improved methods of cultivation, and the lessened costs of production from the actual cultural viewpoint.



"Fordson" Tractor

The man with the hoe has generally given place to the man with the Fordson tractor, while the old fashioned two horse team has had to make way for the almost universally used Ford One-ton Truck.

Right throughout the fruitgrowing districts of Victoria, and as a matter of fact most fruitgrowing centres in the Commonwealth, Ford One-ton Trucks are seen in all the big commercial orchards. Whether Victorian fruitgrowers are more progressive than those of the other States of the Commonwealth is a matter for discussion, but it stands to their credit that there are more Fordsons in use in orchards in Victoria than in any other State, also more orchardists use Ford One-ton Trucks in Victoria than in the other parts of the Commonwealth.

## Fordsons in the Orchard.

The Fordson Tractor for orchard work is the best machine that can be obtained. Its lightness, and the remarkable ease with which it can be

operated in the orchard makes it an ideal machine for the purpose. Its widespread popularity is evidenced by the attention which implement manufacturers have paid to the manufacturer of orchard implements suitable for attaching to the Fordson Tractors.

One implement maker in Melbourne is now devoting the whole of his energies to manufacturing orchard implements for Fordson users. In any fruit district in Victoria these machines can be seen at work. Not only are they ideal for cultivation work, but can perform cheaply and well any belt work required. The cost of running the Fordson Tractor is remarkably small—much cheaper than horses, and takes up only about two-thirds of the time that horses demand.

## Ford One-Ton Trucks.

The Ford One-ton Truck is ideal for fruit transportation. Here again its lightness and adaptability to all conditions, and low cost of running has made it very popular among orchardists. There are numbers of orchardists and market gardeners around Victoria now conveying their products to the canneries, and to the markets per medium of the Ford One-ton Truck. Needless to say great numbers of owners do not confine their loads to a ton, and very often we see them loading nearly two tons, but this must not be taken for granted that we advise overloading the trucks in this way. It is only to give some idea of the wonderful construction of the truck and its dependability.

The lightness of the Ford Ton Truck, combined with power, makes it ideal for working on home made orchard tracks. The ease with which fruit can also be handled on and off these trucks is also much recommended. The experience of orchardists has been that they can save half a day on their run to Melbourne, carrying a full capacity load, in and out.

## Ford Cars.

Many growers have a fleet of Ford products, including the truck, tractor and car. The Ford Universal Touring Car is so well known that it really requires no description or recommendation. Here again lightness, with strength and dependability, makes it the ideal car for the fruitgrower. Some Victorian experiences with Ford products would no doubt be interesting to our readers.

Mr. Walker, of Cashmore, Victoria, who recently purchased a Fordson Tractor, ploughed about 30 acres for Turnips, but on account of heavy rains could not get on with the drill-

ing, he then arranged with his next door neighbour, who was busy ploughing with horses, to do the work. Asked how long it would take to drill the 30 acres with the horses, the reply was "three days." Mr. Walker then inquired how much he would plough in three days. The reply was, "Seven acres." "Well," said Mr. Walker, "I will plough seven acres for you while you drill my Turnips."

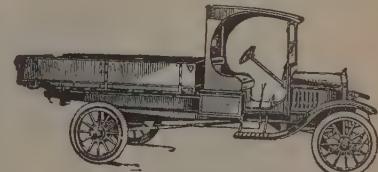
"Agreed!" Mr. Walker set out with the Fordson and ploughed the required amount in one day, while his neighbour spent three days on his job.

## What Do You Know About This?

"Re the Fordson Tractor which I purchased through you in October last, I wish to state that it has given me complete satisfaction in every way. I have used it for all work on the farm, and find it very economical in fuel, both in the field and on the belt.

"Ploughing, I find, takes on an average from  $1\frac{1}{2}$  to  $1\frac{1}{2}$  gallons of power kerosene per acre. Benzine, for starting, is hardly worth mentioning, being very little.

"I carted all the wheat on a heavy 5-ton bow wagon, my load each trip being 50 bags, which I pulled out of the stubble. On this work it cost 4/6 a trip, including grease and oil—four miles in, loaded, and four miles



"Ford" One Ton Truck.

return empty (eight miles in all), which I consider is remarkably cheap.

"Cultivating with 15-tyne May and Millar, scarifier,  $\frac{1}{2}$ -gallon per acre and 16 acres per day with ease, also used it on 10-disc one-way cultivator, Robinson's big E. Harvester, 9ft. cut, corn crusher, and saw bench—all of which she handled comfortably.

"To anyone requiring an engine, I think the Fordson easily the best value, and consider it is the most reliable engine I have come across, and I have worked a good number of engines, both oil and steam.

"Any further information you require I would be only too pleased to let you have at any time."

That is the story of Mr. Thos. Johnstone, farmer, of May Park, Dookie, Victoria. If any farmer in any of the other States in Australia can beat this, we would like to hear from him. No jealousy, of course, just a little friendly rivalry.

At the stand of Messrs. Tarrant's Motors Pty. Ltd. at the Royal Agricultural Show this month, all Ford products will be on view.

A visit to this display will be found of great value to all interested in the matter of transport—commercial or otherwise. —(Advt.)

## Sulphate of Ammonia.

An Ideal Source of the Supply of Nitrogen to all Orchard Crops.

### Australian Output Doubled in Three Years.

(by a Special Correspondent.)

**B**E WISE—FERTILISE" is the slogan of an enterprising fertiliser manufacturer in Queensland, and if the Australian consumption of sulphate of ammonia, which has doubled within the last three years, is any indication that the advice is being followed, then the wisdom of our agriculturists is manifest.

The orchardists of Victoria (which of all the States, is the heaviest user of sulphate of ammonia), have contributed their share towards this rise in consumption.

Such a big factor has sulphate of ammonia become in the mixed fertiliser industry, that it might be termed "The World's Ideal Nitrogenous Fertiliser," but it is not alone as the nitrogenous constituent in mixed fertilisers, that it has earned this reputation. As a topdressing applied to all orchard and farm crops, there is no other fertiliser that will give equal results for the same outlay.

The particular function of nitrogenous fertilisers is to produce stem and leaf, and with all deciduous trees where pruning is such a regular annual feature, the production of good growths of new wood is absolutely essential, and the effect of applications of nitrogen of organic or inorganic origin, is to produce heavier and darker foliage, with a stronger, healthier wood growth, and the development of more and sturdier fruit buds. Loss, the measure of which is difficult to assess, is incurred if trees set a heavy crop, which through lack of vigor, they are unable to mature. An application of nitrogen gives the tree the necessary energy to enable it to mature its heavy crop of fruit, with an improvement not only in the size of the fruit, but in the quality as well.

The advantages of quickly available manures in early Spring are apparent, and a general all-round rule to follow with regard to them is that they should be applied a few weeks before the fruit buds open. An additional advantage of these readily absorbed in-organic manures, is that their soluble qualities enable the orchardist to apply them at times when he could not possibly hope to get any benefit from the slowly available organic fertilisers. A late manuring with sulphate of ammonia will get definite results, though of course, it would be futile to claim that even with this highly soluble salt there is no "too late" period.

A proportion of the nitrogen of sulphate of ammonia is capable of direct absorption by the plant or tree, the

balance remaining in the humus compounds of the soil, and is, in consequence, not easily leached out. Other soluble nitrogenous salts possess this leaching property in a marked degree, thus making their use in certain soils and climates an unprofitable business.

It is claimed in some quarters that an application of sulphate of ammonia to Vines, not only materially increases the yield of Grapes, but adds to the



What Sulphate of Ammonia does in the Vineyard.  
sugar content. Actual testimony as to improved yields, of course, is not wanting in our own State, but nothing official in regard to increased sugar content, is as yet forthcoming from a local source.

Dense crops of green manures are required if the humus stocks of the soil are to be kept up, thereby improving both the water-holding capacity and the texture of the soil. A prolific growth of green manure crops can be depended upon to attend the application of sulphate of ammonia.

This was shown in a distinctly striking manner last year, on the holding of Mr. E. A. Creaton of Billabong, via Mildura. One section of his holding, he stated, had consistently failed to produce what he considered an ample growth of green manure for turning in, and it was not until he had fertilised this particular section with sulphate of ammonia, that he realised its powerful influence in promoting a vigorous growth of the cover crops sown. There was, Mr. Creaton claims, a remarkable difference in the growth on this section, from that on the sections which had received no ammonia.

Mr. Creton is a great believer in heavy fertilisation, and it might be added, since his name has been mentioned, that last year, all the land which he either owns or manages, received at least 10 cwts. of complete manure per acre. Isolated patches received as high as 11-2/3 cwts. per acre, the increased 1-2/3 cwt. representing an extra bag of potash applied late in the year.

Mr. Creton's vines returned as much as 4½ tons of fruit per acre, and after carrying this prodigious burden did not appear at all "distressed." Due to his policy of liberal manuring, they came through the ordeal wonderfully, and should repeat the performance next season, if their present condition serves as any sort of a guide.

Last year at the annual conference of the River Murray Branches of the Agricultural Bureau of South Australia, Professor Perkins was asked by the Renmark Branch, what was the best time to apply sulphate of ammonia to the soil. The Professor replied that under ordinary conditions, applications should be made in early Spring, when the trees or vines are about to shoot. He favored several small dressings, in preference to one large dressing.

The advice given was sound, and may be followed with confidence by all orchardists and vigneron, who by careful attention to fertilisation problems, believe in getting highest possible commercial returns from their land. The judicious use of fertilisers is part of the economic policy of the fruitgrower. When crop prices are low, reductions in the expense of crop production must be sought. The influence of fertilisers in obtaining high acre yields

points conclusively to the fallacy of eliminating this particular item from the crop production expenditure.

We may be certain then, that to the practical orchardist, the advice contained in the opening paragraph of this brief article, will carry some special significance—he will regard it as something more than a mere slogan. It might, however, be amplified to—"Be Wise—Fertilise with complete fertilisers; always taking care that the nitrogen content is supplied as sulphate of ammonia, the cheapest and best nitrogenous fertiliser on the Australian market."

Incidentally, sulphate of ammonia is an Australian product.

## Cold Storage Assists Fruitgrowers

**Modern Equipment Will Serve Growers of Citrus and Other Fruits.**

A review of the Operations of R. Werner & Co. Pty. Ltd., Burnley, Vic.

THE success which has attended the cold storage of Apples and Pears with corresponding benefits to the producers is so well-known that it is no wonder that cool stores are now erected in so many fruitgrowing centres. This experience is particularly true of Victoria and in New Zealand, though the other Australian States are rapidly recognising the commercial importance of erecting cold stores in the orchard centres.

### Citrus Cold Storage.

With abundant evidence on the lines above indicated, the attention of growers has been directed to the latent possibilities of cold stores in the citrus growing areas.

Demonstrations by the Department of Agriculture have shown that Oranges and Lemons have a considerable "storage life," that the fruits will keep for several months—quite sufficient to hold them back when supplies would otherwise be too heavy for market requirements.

The principal varieties of Oranges grown in Australia are Washington Navel and Late Valencia. According to Mr. D. B. Adam, B.Sc., the scientist attached to the Victorian Department of Agriculture, for cold storage experiments, the "Late Valencia" has shown particularly favourable qualities for cold storage.

This is important, as by storing the fruit in the spring, it would be in excellent marketing condition in the summer when such Oranges would be particularly welcome.

The tests in citrus cold storage have so far been conducted at Melbourne after the fruit has been subjected to certain damage by several handlings. Had such fruit been stored in the district in which it was grown, doubtless the results would have been much better.

On this subject it is worth quoting Mr. Adam again—"Losses in citrus fruit, which may be ascribed to physiological causes are small; practically the whole loss with those varieties of fruit is due to fungus attack, particularly the 'mould' fungi. Thus, conditions affecting the growth of moulds generally determine the cool 'storage life' of citrus fruits."

This goes to bear out the suggestion above made, viz., that the entrance of moulds and fungi is caused through the skin of the fruit being damaged in transit, which damage would be largely eliminated were there cool stores in the orchard centres, as is the case with Apples and Pears.

If Apples and Pears had to come to the city for cool storage, the losses would be heavier than where the fruit is kept and stored in the district in which it is grown until it is ready to be despatched to market. We repeat and emphasise the point that there are no physiological reasons against the storage of citrus.

It is quite probable that citrus growers would find that cool stores erected in the orchard centres would prove, as the Apple and Pear growers have done, that there are distinct advantages in having a packing shed and cold store under the one roof. There is nothing fixed in regard to the layout of buildings, etc.; in fact, very often existing sheds, etc., can be worked in. A few years ago, before the cold storage development had assumed its present proportions, growers of Apples and Pears were

in assisting the cold storage development throughout Australia and New Zealand, will be pleased to supply details in this connection.

### Other Aspects of Cold Storage.

As indicated earlier in this article, cold stores have been found to be payable propositions, both for district co-operating companies as well as on privately owned orchards. In addition, it is worth noting that recent demonstrations have shown that dried fruits can be kept free from the ravages of grub and a bright attractive condition maintained by the use of cold storage.

A new avenue of usefulness has been opened up by a report recently received from Mr. F. W. Wakefield, a noted scientist, who has devoted much time successfully to the solving of problems relating to cold storage and the transport of fruit. Mr. Wakefield is of the opinion that there are very considerable possibilities ahead in the cold storage of Pineapples—not only in land cold stores, but in addition that there are great potentialities in the development of an export trade in Pineapples in ships' cold stores.

Canning factories have already proved the advantages of cold storage to smooth out the peak loading of their equipment. This applies to the handling of such fruit as Peaches,



Cool Store at Cudlee Creek, South Australia.  
(Refrigerating Machinery supplied by R. Werner & Co. Pty. Ltd.)

periodically faced with glutted markets, but the advent of the cold store has meant a great uplift to the business of fruitgrowing. The fact that the fruit can be held for varying periods has enabled the Australian Apple and Pear growers to more fully exploit and develop the local market. In the cold storage development we have the brightest example of successful co-operative methods.

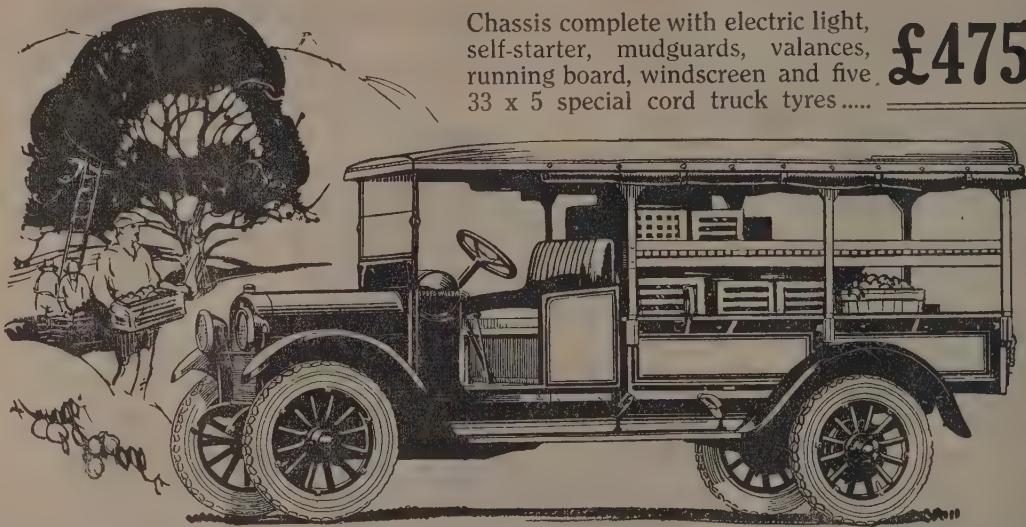
The matter of finance is, of course, important, but producers now have the opportunity of borrowing the necessary capital from the Government under an Act of Parliament or from the established financial institutions, it being necessary, of course, to provide for interest and sinking fund to pay off the indebtedness over a period of years, ranging from ten to fifteen years.

Messrs. R. Werner & Co. Pty. Ltd., Burnley-street, Richmond, which company has taken a most prominent part

Pears, etc., and now new possibilities have opened out because of the success in storing Pineapples.

A cold store in an orchard district very materially increases the values of land in that locality.

At the Royal Agricultural Show in Melbourne, an instructive display of cold storage installed will be operated as on previous occasions, by Messrs. R. Werner & Co. Pty. Ltd. There is the pavilion under the Department of Agriculture's exhibit, in addition to which Messrs. Werner's have their own exhibit in the same pavilion as Messrs. J. S. Corden Ltd. in the Showgrounds at the corner of McCracken and Lobb Streets. A cordial invitation is extended to all interested to visit the exhibit, when all enquiries will be readily answered. The firm would also welcome the attendance of growers at their works, which are situated in Burnley-street, Richmond.—(Advt.)



Chassis complete with electric light,  
self-starter, mudguards, valances,  
running board, windscreens and five  
33 x 5 special cord truck tyres.....

**£475**

# SPEED REO WAGON

## The Fruitgrower's Rapid Transit System

FRUIT may spoil when transportation hesitates. Fleetness and get-there sureness are vitally necessary factors in the vehicle when any kind of perishable produce is the load.

Pneumatic tyres and proper balance give the Speed Wagon traction for the ploughed fields.

The famous Speed Wagon engine and spiral bevel gear axle give it fleetness which brings the market or cannery closer to home. Long springs and cord tyres keep road shocks from the easily spoiled load.

Certainty of performance, and endurance qualities for a quarter-million (or more) miles of service, are built in, because of :

- Inner frame anchoring of power units.
- Thirteen-plate clutch.
- Midship mounted transmission.
- Super-powerful brakes.
- Vital parts 50% oversize.

The sum total is ECONOMY. On the basis of lasting economy the Speed Wagon is the lowest priced commercial car in the world.

Sole Victorian Distributors :

**Queen's Bridge Motors Pty. Ltd.**

Right at  
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Telephone Central 4141

## Western Australia.

**Ploughing: Spraying: Citrus Notes.**

### September.

The first ploughing should be finished early this month, and the cultivators brought into use. No grower can afford to risk putting off cultivation in the expectation of good rains falling in the late spring (writes Mr. G. W. Wickens, Government Fruit Expert in the Western Australian "Journal of Agriculture"). Last season was a case in point, when practically all useful rains in the fruit-growing areas ceased about the first week in October.

Dry winters are practically unknown in those areas, and provided the land is kept in a thoroughly tilled condition, even in as dry a summer as the last one, sufficient moisture can be conserved in the soil to enable the fruit to attain good size and quality, but where cultivation is neglected the fruit is under-sized, lacking in juice and poor in appearance.

#### Spraying.

In districts where Pear Scab (*Venutria pirina*) is prevalent, it is imperative that the first spraying with Bordeaux Mixture—6 lbs. bluestone, 4 lbs. lime, and 50 gallons of water—should be applied during the pinking stage of blooming; that is, when the majority of the blossoms are showing as a pink bud, and when only a few have burst into petals. If this time of spraying is missed any number of sprayings later in the season will not give a good result.

In many districts in this State in ordinary seasons, the pinking stage spray is all that is required, but when wet weather continues a second spraying, after the fruit has formed, becomes necessary, using the same mixture, and in abnormal seasons even a third may be needed some time later. When this last occurs, lime sulphur, at a strength of 1 gallon in 40 gallons of water should be used, because Bordeaux applied at that stage of the fruits' growth may cause russetting.

Woolly Aphis should be treated this month with Black Leaf 40 and soap, but where parasites (*Aphelinus mali*) have been liberated, every care must be taken to leave without spraying a number of trees on which the parasites have been seen during the past summer or winter, so as to give this newly introduced enemy of Woolly Aphis every chance to increase in numbers.

Where powdery mildew of Apple trees was in evidence last year, spray with Atomic Sulphur, 1 lb. in 10 gallons of water, after the petals have fallen.

#### Re-working Varieties.

Where old Apple and Pear trees require working over to other varieties, grafting should be done during this month; in most districts in the south and south-west the stocks will not be sufficiently forward until after the 15th of September. There are many methods of grafting, but strap-grafting is the best. If any one desires to use it and does not know how to prepare the stock and scion, ask the district orchard inspector for a demonstration.

#### Citrus Notes.

The planting of citrus trees should be completed this month, and every care taken after they are received from the nurseries to prevent the roots from being exposed to the sun or drying winds.

Orange Aphis needs continued attention this month or it will, where numerous, destroy the blossoms and thus prevent fruit from setting. Spray with Black Leaf 40 and soap, using 1 lb. B.L.40 and 3 lbs. soap to 80 gallons of water.

Fruit Flies will now be feeling the effect of spring weather, and baiting in Orange groves should be carried out every ten days; while fallen fruits, especially Mandarins, which are more subject to attack than Oranges, should be gathered from the ground at least three times a week (every day is better) and all infected fruit boiled.

Where necessary, continue treating vines for Anthracnose, as advised under work for August. (See "Fruit World," August, page 387.)

## BANANA PLANTING.

### The Importance of Close Planting.

In a letter to the Queensland press, under recent date, Mr. Munro Hull, of Eumundi, in replying to an article dealing with Banana growing, states that in his experience, very little of the coastal ridges will carry profitable Banana crops beyond the third cutting—this, too, with only 300 plants to the acre, and endless toil in keeping it clean.

If close planting (1,200 to the acre) is successful for two cuttings only, it must follow that the close-planter makes just four times as much in the two cuttings as the 12 x 12 planter does, and from just four times less area to be kept clean, as the third cut, on any ordinary plantation, is seldom first grade, big-bunch stuff.

The object of close planting, Mr. Hull goes on to say, is economy in land, less area to keep clean, quicker returns, and the possibility of rotation of crop, instead of having to allow the patch to run out to grass land. Three acres 6 x 6 is equal to 12 acres old style, and by planting no more than three acres each second year a "maiden crop" is obtained every second cut. This 12 acres of land planted 12 x 12 would run out in from three to four years, but planted 6 x 6 in areas of three acres only, that land could be made to produce prime stuff for twice the period, thus giving four times the cash return.

After all, he states, what difference is there in having three stems placed 12 feet apart, and having one stem every 6 feet apart? The difference is this: At 6 feet apart you get more shade for the tender roots, less area to chip, more warmth in winter, and more heat in summer, less broken leaves, better travelling fruit, and, finally, more money.

No thought, no word, no act of man ever dies. They are immortal as his own soul. Somewhere in this world he will meet their fruits in parts; somewhere in the future life he will meet their gathered harvest.

## LINING PAPER FOR FRUIT CASES

.... WHITE OR CLEAN PRINTED NEWSPAPER ....  
is now available in large quantities for immediate delivery.

White, cut to size 13 x 42 or 18 x 25. Printed, uncut.

Prices on application.

The printed news consists of "Argus," "Age," "Leader" and "Australasian" new, undistributed copies, and therefore is perfectly clean. Cases for fruit neatly lined have an increased selling value.

Prompt enquiries requested to

**ESMOND RUSSELL, 60 Queen Street, Melbourne**  
DISTRIBUTORS TO THE FRUIT TRADE.

Also obtainable from all Western Market Agents, and LAWFORD'S FRUIT EXCHANGE, PTY. LTD., Doncaster.

# Poultry and Beekeeping

## Poultry Notes.

by Ian P. Hamilton.

### THE IMPORTANCE OF EXERCISE.

**E**XERCISE is a great egg producer and as such should be given close attention by every poultry breeder. I do not suggest that birds on free range will lay better than those in confinement. They will not, but then the reason is that they will not be afforded the same protection from adverse weather conditions as those comfortably housed under the intensive system.

One of the best ways to supply exercise to the birds is to see that they have a good litter of scratching material on the floor into which all grain should be scattered. The amount of litter that should be supplied, and the frequency with which it should be changed, varies according to circumstances.

A deep litter of straw is probably the most economical in the long run. It provides good exercise and does not require very frequent changing as it will absorb moisture and deodorise the droppings.

Very good results are maintained if the litter of straw is placed upon clean earth. It is not necessary to go to the extra expenditure of having the floors concreted. As soon as the first supply of litter is worn down add a little more. Continue doing this until dampness or the accumulation of pulverised droppings and litter on the floor make a complete cleaning necessary.

Whatever material is used for this litter, care must be taken in seeing that it is not musty or mouldy. Fowls don't like to scratch in musty or even dusty litter. The constant irritation of the nostrils and the mucous membranes of the throat caused by dust, sometimes result in outbreaks of catarrhal disorders.

### 2 DAY OLD CHICKS

Blk. Orp., White Leghorn, £6/6/- per 100  
£3/10/- per 50  
18/- per doz.

Good Laying Strain. Order at once.  
Delivered anywhere by rail.

R. STEPHENS  
Goodwin Poultry Farm  
We Pay Freight. BLACKBURN, Vic.

Another plan for providing exercise is to suspend cabbages or other greens in the sheds, so that they will hang out of reach and necessitate the birds jumping up to peck the leaves.

### CHICKEN REARING.

The Proprietor of the Grandview Poultry Farm contributes the following practical suggestions:-

"To those who wish to make a success with poultry, an all-important factor is the rearing of chickens, in fact, to my mind unless your chickens are well reared you are doomed to failure."

A prevalent fault with incubator chicks is to feed them too soon. When a chick emerges from the shell it has absorbed enough food from the egg to nourish it for at least 48 hours, so don't interfere with the chicks in the incubator until they are at least 2 days old, one of which will be spent drying.

Have the brooder heated up ready to receive your chicks and, on placing them with the foster mother, sprinkle a little chick feed on the floor which should be lightly covered with clean dry sand warmed before placing in brooder.

It is a good plan to sprinkle a little chick feed in the water utensils, as it quickly teaches the youngsters to drink. Do not put a large hopper full of feed before them, but just give what they can eat up in a few minutes and repeat this at least 6 or 7 times a day. Always see that there is a supply of clean fresh water. Nothing encourages disease more than unwholesome water.

After the third day allow the chicks to have the use of a well protected run where they may get plenty of sun and light, and commence feeding a mash in the morning—Pollard, bran, maize meal, hard boiled eggs, chopped up greens, bone meal and perhaps a little meat meal. If ground charcoal is not always before the birds, you will notice that numbers are apt to clog up round the vent. Charcoal is a sure preventive of this."

After 3 weeks you will find that the lamp is unnecessary, although it is not advisable to remove the chicks from the brooder for a week or two. When eventually they are removed, give them a well protected home to sleep in at night but allow them as much free range as possible and con-

tinue feeding 5 or 6 times per day until they are about 8 to 10 weeks old.

The cockerels should then be separated and given fattening foods as the November markets are the best for 3 or 4 months old cockerels. Pea meal will be found excellent for this purpose.

## Bee-Keeping.

**Y**ELLOW BOX and red gum trees are now furnishing the main flow of honey. Bee-keepers are reminded by the Government Apiculturist (Mr. F. R. Beuhne), that where there has been more swarming than was desired, and the total yield of honey is the object aimed at rather than an increase in the number of colonies, the weaker stocks may be united at the commencement of the honey flow, as the highest return is secured by having a given number of bees in the fewest hives.

It should be noted that 50,000 worker bees in one hive will store a far greater amount of honey than the same number in two hives with 25,000 in each. Such a large worker-force requires three bodies of full-depth frames, otherwise the best results cannot be obtained, because nectar, being as thin as water, when brought in by the bees, only a little is put into each cell to hasten evaporation. When, therefore, sufficient empty combs are not available to the bees, part of the worker-force will be idle.

Each colony should have at least three sets of Longstroth size combs, and when these are not available, the time of the red gum honeyflow is suitable for getting new combs drawn out from full sheets of foundation.

### DON'T KEEP FOWLS, MAKE THEM KEEP YOU!

The Laying Strain is the Paying Strain  
Ours are both.

White Leghorns, Black Orpingtons, Rhode Island Reds.

2 DAY OLD CHICKS  
from 18/- per doz.

Book now and save disappointment.

Settings from 7/6

Special quote for larger orders either in chicks or eggs

Only best laying strains kept

Further particulars from:

The Manager

GRANDVIEW POULTRY FARM

Cranbourne Road,  
Frankston, Vic.

# Four Direct Benefits from using “Karswood” Poultry Spice



Test beats Talk.  
Facts beat Fiction.

Karswood Poultry Spice (containing ground insects,) is one of the most important factors that help to "put the profit into Poultry keeping."

"That," you say, "is a pretty tall order!" Yet it is backed up by the strongest evidence that the world can produce.

Many times in these columns we have claimed that Karswood Poultry Spice increases egg supply by absolutely natural means; that it assists birds through the moult and brings them on to lay again in excellent condition; that it brings young stock on quickly and at the minimum of cost; and that Karswood birds produce the maximum number of strong healthy, easy-to-rear chickens.

All these claims are solidly vouched for by more than half-a-million daily users, and by such eminent poultry authorities as C. A. House, Will Hooley, George Bustin, as well as winners of such competitions as the Harper-Adams, and Champion of India.

Where else do you find evidence of such a nature as this? It is complete, incontrovertible. There isn't the faintest shadow of doubt that Karswood Poultry Spice will give you excellent results—and at the cost of a half penny per day for every twelve birds.

Read the letters published below. Here are facts from individual users. You too, can have as good results if you will make the simple, inexpensive test that proves the merit of Karswood.

## SMALLER FEED BILL, QUICKER RETURNS!

Dear Sirs,—

Your advertisement in the "Evening Sun" this week came to my notice. I have a small Poultry Farm and am a very enthusiastic user of Karswood. My first trial of it was on a yard of second season hens, the result was they gave twice as many eggs in that season as they gave in their first season. I find it brings the young table birds on very rapidly; at three months old on Karswood they are equal in size to five months old without Karswood. That means a smaller feed bill and quick returns! I am

overstocked with the empty 7lb. tins, and am wondering if you have any idea of collecting and buying the tins back again, it is rather a problem how to dispose of them and they are too good to throw away. I never have "Poultry" paper, but nom-de-plume for it—"Game Chick." (Sgd.) Miss M. Short, Corrie Road, Post Office, North Manly. July 20, 1923.

## From the Same User.

Dear Sirs,—

In reply to yours of the 24th., you are free to use mine of the 20th. as a testimonial, though "Karswood" deserves a better "Boost" than I can supply. I induced several people to acquire the "Karswood" habit, they also passed it on to others, and no one gave it up after a trial. My experience in breeding shows stronger chickens hatched when the foundation stock are "Karswood" birds. It brings hens through the moult in better condition. "Karswood" produces an atmosphere of "Contented Brightness" in the Fowlary—how is that for a slogan for you? It is true, every bit. (Sgd.) Miss M. Short, Corrie Road, Post Office, North Manly. July 25, 1923.

## ASSISTED THEM THROUGH MOULT.

Dear Sirs,—

I would like to inform you of the results I have obtained from using Karswood Poultry Spice. I was first informed of this spice by a friend of mine, who strongly advised me to use it during the moulting period. I was somewhat dubious at first in using it, as I was not a believer in spices for fowls, but after seriously considering it on account of the scarcity of eggs, I tried a packet and am glad to state that I have had wonderful results from it. After using it a fortnight you would see a wonderful improvement in the condition and the plumage of the birds, it having considerably assisted them through the moult and actually started them laying in the middle of it. After using several packets of Karswood and when my fowls were laying heavily, I decided to leave off Karswood, but after a few weeks my eggs decreased 50%. I again decided to test the qualities of Karswood and glad to say that, after a few days, my fowls were again laying heavily. I am writing this to you as I feel that you have given to the Poultry keeper a chance in obtaining good results from their fowls, and to Karswood must be given the credit of

reducing the usual shortage of eggs, as you well know not prevalent this winter. You may use this letter in any way you think fit, and again thanking you. (Sgd.) Wallie R. Robinson, 9 Austral Terrace, Malvern, S.A.

## 75% WITH SNOW ON GROUND.

Dear Sir,—

Will you please send me nine 2/- packets of Karswood Spice? I used it in England in January 1919, when there was snow on the ground, and the hens laid after three weeks' use—laid well and kept up an average of 75% per day until I sold them in June, whereas they had not laid an egg for the previous six months. I have never found anything to give nearly as good results. (Sgd.) Allan H. Brown, "Challacombe," Wahroonga, August 25th., 1921.

## SPLENDID GROWING MIXTURE.

Dear Sirs,—

I got a couple of 2/- packets of Karswood Poultry Spice about a couple of months ago and found it did all you say in the advertisement in the "Producers' Review." Our poultry had not been laying for months, and exactly three weeks after using the spice we got abundance of eggs; the poultry improved in a wonderful manner. We are now giving it to young chicks, and it is a splendid growing mixture and puts life and energy into them. Please send by rail to Bruce Rock, one 7lb. tin of Karswood Poultry Spice, 14/-; also 3 packets of Pig Powders, (Karswood.) (Sgd.) E. H. Tomkinson, Kummin, via Bruce Rock, W.A. October 1, 1921.

## MAKE THIS TEST.

Go to your local grocer, storekeeper or produce dealer. Get a 1/- packet of Karswood Poultry Spice (containing ground insects.) Give it to half a dozen of your birds in accordance with the directions on the packet. Do not expect immediate results. Karswood works naturally, not suddenly. It takes at least a fortnight or three weeks to produce results, but they are good and sure.

Note the Economy.

1/- packet supplies 20 hens 16 days.  
2/- packet supplies 20 hens 32 days.  
13/- tin (7lbs.) supplies 140 hens  
32 days.

14lb. tins 25/- 28lb. tins 48/-.  
"Makes 12 hens lay for 1d. a day"

Agents,—  
New South Wales,—Coastal Farmers' Co-op. Scy. Sydney.  
Victoria and Tasmania,—Henry Berry and Co. Pty. Ltd., Melbourne.  
Queensland,—Farmers' Co-op. Distributing Co., Brisbane.  
South Australia,—S. C. Eyles and Co., Currie St., Adelaide.  
West Australia,—Westralian Farmers Ltd., Perth.

Comb foundation is expressive, but in the end combs built from starters are more expensive still, because so much drone comb is built when starters only are given, that one of the principal advantages of the frame-hive system is lost.

All frames should be wired, four horizontal wires being most in favour with bee-keepers. The wires should be well embedded into the foundation, so that it may not come away from them. Between the bottom edge of the sheet of foundation and the bottom bar of the frame, there should be a space of at least  $\frac{1}{2}$  inch, to allow for the expansion of the sheet by the heat of the hive.

#### The best combs

are obtained when the foundation is drawn out by the bees in the super immediately over the brood nest, without an intervening excluder. Combs should be capped at least two-thirds before being extracted, so that the honey will be of good density.

When hives are three stories high, there is no necessity to extract all the honey at one time; one set of combs can be extracted, and the empty combs returned to the hive, and when they are partly filled again, the others can be taken. In this way the bees are not upset so much as when all the combs are wet and sticky after extracting, and the risk of leaving the hive destitute of stores, should the honey-flow suddenly cease, is avoided.

#### Pig Rearing.

**A**MIDDLE York-Berkshire cross is recommended as a fine utility pig.

Pigs will do well if fed liberally on crushed barley, raw potatoes, skim milk, and pollard. Charcoal is an important addition to the ration and has much to commend it, both medicinally and as a source of some element required, particularly by young pigs kept in sties.

Sties should be built in a high position and facing the east, so that they have the advantage of the morning sun.

Pigs on free range should be brought in for 6 weeks before being sold, and topped off on crushed grain.

All stillborn pigs should be taken away from the sow immediately, or the habit of pig-eating is almost certain to follow.

Exercise is an important factor in the growth of pigs.

In cases where the sow goes down with paralysis it is advisable to wean the pigs. Then give the sow 4 ozs. of epsom salts in slop, and when that has acted, administer twice daily a tablespoonful of codliver oil, half a

teaspoonful of precipitated phosphate of lime and 3 to 5 drops of fluid extract of nux vomica. Continued treatment for several weeks is necessary.

#### ALMONDS AND LEMONS.

**Australian Growers are Asking for Increased Duties to Check Imports.**

In view of the fact that the subject of the duty on Almonds and Lemons is reported to be shortly coming before the Federal Parliament during the revision of the tariff, growers are bestirring themselves requesting increased duties to check the flow of imports.

The South Australian Fruitgrowers' and Market Gardeners' Association has placed the following facts before the Federal Government by correspondence, dated July 11th, 1924:

In view of the fact that South Australia is adapted for Almond and Lemon growing, the River Murray Valley, being particularly suited for Almonds, we feel that we should be afforded better protection from foreign competition.

In respect to Almonds we find market values are below cost of production, consequently the industry is languishing. Market values for nuts and kernels are governed by quotations and importations from foreign countries.

At present wholesale dealers are offering from 8d. to 8½d. per lb. for best Almonds in shell, and from 1/5 to 1/6 per lb. for Almond kernels, for limited quantities, owing to heavy stocks of the imported article.

Three months ago we had quotations for foreign Almonds in shell at 8½d. per lb., duty paid, landed Sydney, and 8½d. per lb. Port Adelaide. We have not the quotation for Almond kernels, but were advised by the Tariff Board about last September that the quotations then were from 1/4½ to 1/5½ per lb., duty paid, landed Sydney.

The present duty is 2d. per lb. British preferential, and 3d. per lb. foreign, on Almonds in shell; and 4d. and 6d. per lb. respectively on Almond kernels.

## Latham Dehydrators

"STAND ALONE"

The "Rolls Royce" of the Artificial Drying World.

Some Installations for Foodstuffs.	
Purchaser	Principal Prods.
Merbein Dehydration Trust, Mildura	Sultanas Raisins etc.
Tasmanian Dehydration Pty. Ltd. Bridgewater two plants.	Apricots Prunes Apples
Charles Martin, Yackandandah	Prunes
Swallow & Ariell Ltd. Port Melbourne.	Carrots Turnips Cabbages, etc.
Woorinen Co-op. Pack. Shed, Woorinen	Sultanas Raisins etc.
Aurora Pack Co. Pty. Ltd., Irymple,	Sultanas Raisins etc.

**D. J. LATHAM**

157 Queen Street,

Melbourne, Australia.

**STONE FRUITS  
CITRUS TREES  
and QUALITY ROSES**

#### BEFORE PURCHASING

for hardiness, healthiness, and vigor. They will jump from the start and bring profit to the grower. Our stocks are excellent and prices right. Special attention is given to packing.

**LASSCOCK'S NURSERIES**

**A Good Start means Everything!**

send for Lasscock's Catalogue and prices. These South Australian grown trees are unsurpassed for hardiness, healthiness, and vigor. They will jump from the start and bring profit to the grower. Our stocks are excellent and prices right. Special attention is given to packing.

Henley Beach Road,  
LOCKLEYS, STH. AUSTRALIA

About July, 1923, we made representations to the Federal Government for an increase in duty. The Tariff Board considered our request, and advised us that the subject of duty would be dealt with during the revision of the Tariff, but we find the matter never came before the House before the close of the session.

On March 30th of this year, we reminded the Tariff Board of our previous request, and begged to amend it, owing to altered circumstances and set out our reasons. We then asked that the duty be increased to 7d. per lb. on Almonds in shell, and 1/- per lb. on Almond kernels. This being the rate of duty imposed by the United States of America on October 1st, 1923. We were then advised by the Tariff Board that the

matter would be dealt with when the general revision of the Tariff took place.

The importations into the Commonwealth for the year ending June 30th, 1923, were 95 tons of Almonds in shell, valued at £7,268, and 555 tons of Almond kernels, paste and meal, valued at £78,710.

Twelve months ago the U.S. of America found their markets flooded with foreign Almonds, and Almond kernels, 60,000 bales of 220 lbs. each being imported just prior to the raising of the duty from 2d. per lb. to 7d. per lb.

In Italy and Spain, the chief Almond growing countries, there was a heavy crop last year, and at the end of the season they had a carry over of about 30,000 tons, this with a fair crop following gave them an export surplus of 55,000 tons.

Owing to being practically shut out from the American market, they have turned their attention to the Australian markets.

The harvesting of our crop requires a great deal of labour, and we find we cannot compete with foreign countries, where labour is cheaper, and our protective duty only equal to 25 per cent. of the market value of the imported article. The prospects for our growers at present are even worse than twelve months ago. We consider our Almond industry warrants a 50 per cent. protection. The estimated area under Almonds in South Australia is 2,000 acres.

#### Duty on Lemons.

In respect to Lemons.—The present duty is 1d. per lb., foreign, which is equal to 25 per cent. on the landed cost, duty paid, viz., 16/- to 18/- per Californian case of about 56 lbs.

During last year 10,000 cases were imported.

We consider we can produce sufficient Lemons for the Australian requirements. Growers anticipate they have to meet foreign competition during certain months, and rush their fruit off the trees prior to that time. We have asked for an increase of duty to 1½d. per lb.

## Safety First to Foliage

## Save Your Crops from BUGS AND BLIGHTS

DRY DUST YOUR VINES  
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WITH

## GREEN CROSS SULPHO-ARSENATE POWDER

It protects from many forms  
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Destroys Leaf-Eating Insects in  
One Operation.

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One or One Million  
Supplied

**W. G. GRAY**

Allwood Nurseries  
Hurstbridge, Vic.

Write for Catalogue  
Post Free.

**HOW TO PLANT STRAWBERRIES.****Some Practical Hints.**

"Because we have the soil, the climate, and the know how," was the reply given by an old pioneer berry grower when asked how he grew such wonderful fruit.

The old grower was right. His soil was a fertile sandy loam, well drained but with available water to mature a good crop; his climate was cool and equable, which produced large fruits of excellent quality; his "know how" was that happy combination of good judgment, care for details, and years of experience on his soil (writes Mr. J. L. Stahl, Division of Pomology, University of California, U.S.A.).

Wherever grown, the principles of planting Strawberries are the same. The soil should be fine to a depth of seven inches at least.

Only plants with healthy green foliage and white roots should be set. The green indicates vigour and the white roots are on young plants only; old plants have dark roots. Runner plants of the previous season's growth and nearest the parent are preferable to those more distant as they have struck root earlier, are larger and better developed.

Plants may be set closer in gardens than

**in commercial plantations**

as they usually receive more hand work. Growing in hills one foot apart and rows two feet apart, allowing no runners to form is a good system for small home gardens. In commercial plantations where single horse or wheel hoe cultivator is used, rows may be three or four feet apart with plants twelve to fifteen inches apart in the row.

Both the hill and narrow matted row systems are common in commercial fields. The hill system allows plants only in their original setting. The matted row allows five or six new plants to set from runners of each parent hill.

In some irrigated sections the plants are grown on raised beds three or five inches high, twelve to eighteen inches wide and eighteen to twenty inches apart, with a cultivated area and water run on each side. The beds are set with plants nine to twelve inches apart in zigzag rows, and five or six runner plants are allowed to form from each parent. By the second season matted rows cover the beds.

Small plantings may be set in rows by use of a string or wire. Large fields are best marked off before planting.

**A good marker**

may be made by boring inch holes through a plank at desired distances

for rows and driving six-inch pointed hardwood pegs into the holes. Handles for pulling the marker are nailed to the plank at a convenient height. Three to five rows may be lined at a time with this marker.

The best plant setter is

**an industrious man**

on his hands and knees. A short handled planting hoe or dibble with handle bent at right angles is a good tool for the purpose. If the handle is just the length of the distance between plants in the row it can be used for measuring. When setting, about two-thirds of the leaves of the plant should be removed and the roots cut back to a compact mass  $2\frac{1}{2}$  or 3 inches long. One stroke of the hoe will open the soil, the plant is placed with the centre of the crown (junction of roots and top) at the surface of the soil, fine earth is drawn in and firmed over the roots.

**APPRECIATIONS.**

Chittering Brook, W.A.

2nd August, 1924.

I find the "Fruit World" invaluable. Every orchardist should certainly become a subscriber to your most excellent monthly. D. S.

Premaydena, (Tas.)

29th July, 1924.

Self and sons appreciate your "Fruit World" very much. T. F. L.

Renmark, (S.A.) 6/8/24.

I look forward to the magazine, for it has much valuable information in it. Am glad to see that you are looking after the Dried Fruits Department in which I am particularly interested. A. R.



# THREE GOOD REASONS

**BUY CHEVROLET TRUCKS**, because the worth of a motor truck depends on the ability of its motor. The Chevrolet valve-in-head motor provides maximum power with minimum fuel expenditure.

**BUY CHEVROLET TRUCKS** because Chevrolet trucks are built well. They embody the best materials and workmanship. They give long and uninterrupted service. Their surplus strength overcomes the handicap of bad roads. They are "mud-tested."

**BUY CHEVROLET TRUCKS** because Chevrolet trucks are easy to drive. The controls are conveniently arranged and easy to operate. The equipment includes all needed devices for comfort and safety.

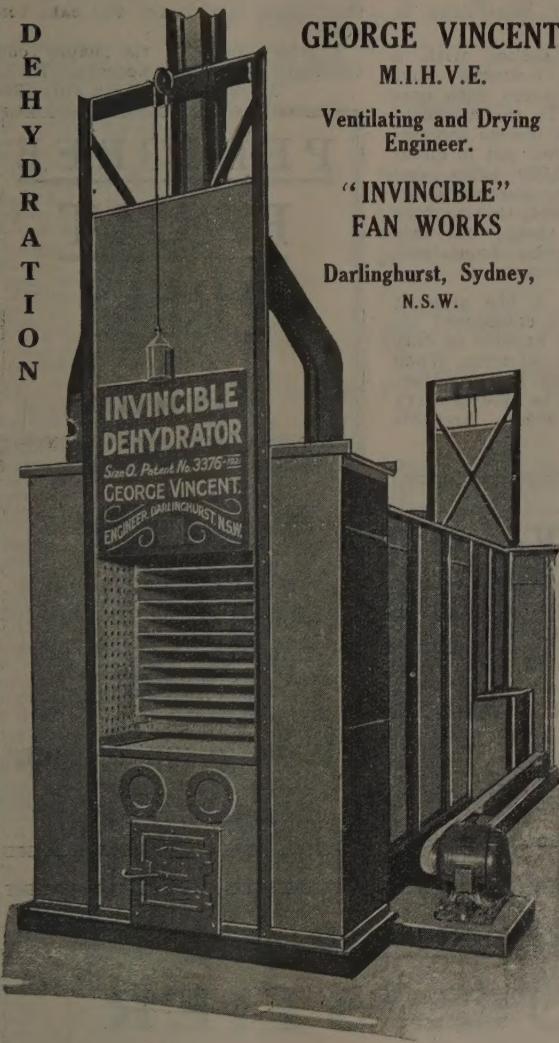
1-Ton Truck Chassis . . . . .	£235
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Sole Agents for  
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## The "Invincible" Dehydrator

**READ THIS UNSOLICITED TESTIMONY  
FROM ONE OF OUR CLIENTS:**

19/4/1924.

Mr. J. L. Norrie, Koorawatha, N.S.W., writes:—

"... I am very well satisfied with the working of the "Invincible" Dehydrator, and managed to dry quite satisfactorily with my ordinary drying trays. I did not put any through entirely with the Dehydrator, but used it for finishing off. I am quite satisfied that I can turn out as good a sample if not better as with sun drying."

(Sgd.) J. L. NORRIE.

**GEORGE VINCENT**  
M.I.H.V.E.

Ventilating and Drying  
Engineer.

**"INVINCIBLE"  
FAN WORKS**

Darlinghurst, Sydney,  
N.S.W.

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operative Insurance Com-  
pany of Australia Ltd.**

Capital, £100,000.	Subscribed Capital, £70,000.	Paid Up, £35,000.
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Manager—H. L. CARROLL

Address: 360 Collins Street, Melbourne

YOU are invited to become a shareholder.

AGENT—LAWFORD'S FRUIT EXCHANGE PTY.  
LTD., 60 Queen Street, Melbourne,  
and Williamson's Road, Doncaster.

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## Watters' Seeds

For the CHOICEST VEGETABLES and most  
BEAUTIFUL FLOWERS sow our Seeds

We are Headquarters for—

## Hunter River Lucerne

Cleaned by our Special Machinery, and free  
from all weeds. SPECIAL QUOTATIONS for  
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We have large stocks of the following in best  
re-cleaned Seed: Broadleaf Dwarf Essex  
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Write at once for our Special Quotations.

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Illustrated Catalogue and Calendar, post free.

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251 & 253 Swanston St., Melbourne

**THE TRACTOR ASSISTS FARMING.**

Success in the So-called "Desert."

Much of the so-called Australian "desert" is fertile land. There are 1,000,000 acres lying idle on the Victorian—South Australian borders,

**SPRAY MATERIALS**

of QUALITY and PROVED EFFICIENCY, including Arsenate of Lead in paste and powder forms.

**ATOMIC SULPHUR**

Recommended by the Department of Agriculture, N.S.W., for the control of

**Powdery Mildew on Apples** and PROVED IN VICTORIA to be capable of controlling

**Brown Rot on Peaches**

And Other Stone Fruits.

ATOMIC SULPHUR is the greatest boon ever offered to Fruitgrowers.

Agents wanted throughout Victoria.

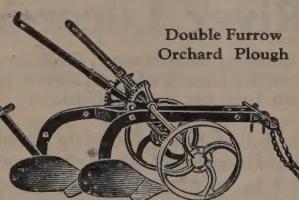
SOLE AGENTS FOR VICTORIA:

**Buckeye Harvester Co.**44 to 52 Francis Street,  
MELBOURNE (Vic.).

Opposite Spencer Street Railway Station.

**"NEWLIGHT"**

Double Furrow Orchard Plough



Weighs only 2 cwt. Can be fitted with knife or circular coulters. Works right up to trees, both ways. Ample strength. The handiest orchard plough on the market.

Liberal extended terms if desired

**H. V. McKay, Pty. Ltd.**

SUNSHINE

607 Collins Street, West, Melbourne

much of which could be worked up, and there is water in most parts fairly near to the surface.

A few small patches which have been cleared are producing Pears, Apples, Grapes, and Vegetables in profusion.

One enterprising settler with a Case tractor and 6-furrow disc plough, planted 100 acres with oats in February, 1918. To the astonishment of his friends, it proved successful. Since then he has put in quantities aggregating 3,000 acres, and every crop has been successful as sheep fodder. In 1914, this country only carried 1,500 sheep, but last year, on this particular homestead, 10,000 sheep were shorn.

This settler holds a big area of this country hitherto considered almost waste land, and capable of only carrying one sheep to 20 acres. When the ground the tractor is now clearing is planted, it will be able to carry about another 10,000 sheep. And this is in the "desert."

**APPRECIATION.**

Doncaster, (V.) 4/8/24.

The Editor, "Fruit World," Enclosed please find cheque for £1/10/-, which will cover my sub to the "Fruit World" for the next four years.

I wish you and the paper continuously increasing success. E. L., Merbein, (V.) 18th July, 1924.

# PEDIGREE FRUIT TREES

## CITRUS

APPLES, APRICOTS, PRUNES,  
PEARS, PLUMS, PEACHES, etc.

**QUALITY PRIME**

Correspondence Invited  
Orders Being Booked  
Send for Our Catalogue  
The Most Up-to-date  
in Australia

**F. Ferguson & Son,**  
Australian Nurseries,  
Hurstville, N.S.W.

**ESTABLISHED 1891**

# **AUG. STIER**

## FRUIT BROKER, Fruchhof, HAMBURG

Telegraphic Address: FRUITERO, Hamburg.

Consignments Solicited

Agents for Victoria and South Australia:—

**J. B. MILLS & CO., 9 Queen St., Melb.**

Reliable Representatives wanted for the other States.

# The Fruit Trade

Market Reports and News Items.

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS.

Advertising in this Journal.

## NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.  
Louey Pang & Samuel Wong Ltd.,  
Thomas St., Haymarket.  
Reedy & Lee, City Markets.  
Rogers, F. H. G., Fruit Exchange.  
Rule & Beavis, Fruit Exchange.

## VICTORIA.

Melbourne.

Coastal Farmers' Co-op. Society, Western Market.  
Davis, J., Western Market.  
Lister, G., Western Market.  
Mills & Co., J. B., 9 Queen Street (representing Nothard, Lowe & Wills Ltd., London).  
Millis, A., & Sons, Western Markets.  
McClure, Valentine & Co. Pty. Ltd., 49 William St.  
Mumford, J. G., 449 Flinders Lane.  
Pang & Co. Ltd., H. L., Little Bourke St.  
Silbert, Sharp & Davies, Western Markets.  
Stott & Son, T., Western Markets.  
Tim Young & Co., Western Market.  
Vear, F. W., 49 William Street.  
Wade & Co., H. M., 439 Flinders Lane.  
Woolf, G., Western Market.

## QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.  
Collard & Mackay, Fruit Exchange.  
Cooksey & Co., Fruit Exchange.  
Finlayson & Son, Fruit Exchange.  
Geeves, H. V., Fruit Exchange.  
Robsons Ltd., Fruit Exchange.  
W. J. Whitten & Co., Fruit Exchange.

## WESTERN AUSTRALIA.

Pert.

Wills & Co. Ltd., G., Exporters.

## SOUTH AUSTRALIA.

Adelaide.

Wills & Co. Ltd., G., Exporters.

## TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.  
Peacock & Co., W. D., Fruit Exporters, and at London.

## NEW ZEALAND.

Auckland.

Radley & Co. Ltd., Fruit Auctioneers.  
Turner & Growers Ltd., City Markets.

## DUNEDIN.

Co-operative Fruitgrowers' of Otago Ltd.  
Paterson, Thos., & Co., Vogel Street.

## ENGLAND.

London.

Jacobs, E., & Sons, Covent Garden.  
Margetson & Co. Ltd., Covent Garden.  
Monro, Geo., Ltd., Covent Garden.  
Nothard, Lowe & Wills Ltd., Tooley Street.  
Pask, Cornish & Smart, Covent Garden.

Ridley, Houlding & Co., Covent Garden.  
Swann & Co., 3 Salter's Hall Court.

Hull.

White & Son Ltd.

## COMPARATIVE WEIGHTS AND MEASURES.

### English Fruit Weights.

Apples, sieve is equal to 1 bushel, generally 38 lbs.  
Cherries and Currants,  $\frac{1}{2}$  sieve equal to 24 lbs.

Gooseberries, Plums,  $\frac{1}{2}$  sieve, equal to 28 lbs.  
Pears, sieve, equal to 50 to 56 lbs.

### Foreign Weights.

Apples, Canadian, barrel, equal to 140 lbs.  
Apples, American and Nova Scotian, barrel, equal to 120 to 130 lbs.

Pears, Californian case, equal to 40 lbs.

## British, Foreign and Australasian Market Reports.

### Canada.

Quebec (24/7/24).

The Department of Agriculture, Canada, report the prices realised as follows:—Apples, Winesaps, approx., 13/6; transparent, 15/6 to 16/6; Pears, Bartlett's, 22/- per 48lb. box; Peaches, 11/6 per 18lb. box.

Ottawa.—Apples, 11/6 to 12/6; Plums, 8/6 to 18/6; Peaches, 7/9 to 8/6.

Toronto.—Apples, 9/- to 12/6; Pears, 16/6 to 18/6.

### Great Britain.

London (13/8/24).

Victorian Oranges ex the s.s. "Borda" and "Esperance Bay" arrived in excellent condition, sales by auction realised 17/- a case for small counts, others 20/- to 23/-; flat boxes, which contain about 1-3rd less quantity than cases, fetched 13/- to 18/6. Two thousand eight hundred boxes of Western Australian Oranges submitted to auction at Covent Garden were rather wasty. Cases realised 13/- to 15/6; boxes, 6/- to 13/6.

London (19/7/24).

The following are the prices ruling as published in the "Fruit, Flower and Vegetable Trades' Journal," 19/7/24:

Apples.—Vic. and Tas. Sturmer, 16/- to 21/-; others, 15/- to 20/-; New Zeal. Rokewood, 22/- to 24/-; Doherty's, 20/- to 22/-; others, 16/- to 22/-; Bananas, Hoya, 15/6 to 23/-; Cherries, 4/- to 16/-  $\frac{1}{2}$  sieve; Grapes, Muscat, 4/- to 7/-; Canon Hall, 5/- to 8/- per lb.; Lemons, Messina, 300/s, 24/- to 32/-; Nectarines, 10/- to 15/- per dz.; Oranges, South African, 18/- to 22/-; Murcia, 240's, 25/- to 35/-  $\frac{1}{2}$  case; Peaches, best, 12/- to 18/- per doz.; Pines, 2/6 to 5/- each.

London (18/7/24).

Mr. Gerald Da Costa reports New Zealand Apples realised—Statesman, 20/-, 23/-; Sturmer, 20/-, 22/-; South African Oranges, Navels, 18/-, 25/-; Seedlings, 17/-, 21/-; Grape fruit, 20/-, 30/-.

London (22/7/24).

Mr. J. O. Sims, reports under date 22/7/24 as follows:—Tasmanian Apples ex the s.s. "Beltana" realised:—Wagners 14/- to 15/6; Sturmers, Standard, 19/- to 20/-; Plain, 15/- to 19/-; blemished, 14/- to 16/-; Tas. Pears ex the s.s. "Port Chalmers" were:—V.W., 5/6 to 7/6; E.B., 6/- to 7/9; L.C., 5/- to 6/6; B.P., 6/- to 7/6; G.W.N., 3/6 to 4/6; others, 3/6 to 5/- per  $\frac{1}{2}$  case; Jos., 4/- to 7/6; F., 6/- to

6/9; W.N., 5/- to 6/-; G.N., 1/- to 4/6; others to 4/- tray.

Liverpool (16/7/24).

Messrs. J. C. Houghton & Co. report prices at Liverpool as follows:—Tasmanian Apples:—S.T.P., 15/- to 23/-; Rome Beauty, 22/6; L.P., 15/6 to 16/6; Lisbon, 2/- to 10/3; Oranges, Cal., 24/- to 27/6; South African Navels, 15/- to 22/6; Valencia's,  $\frac{1}{2}$  case, 300's, best, 26/- to 30/-.

Liverpool (4/7/24).

Messrs. James Adam Son & Co., of Liverpool, report having sold by auction 7,029 cases of Tasmanian Apples and 411 packages of Pears ex the s.s. "Aeneas," "Persic" and "Surrey" for the weeks June 18th to July 4th. Prices ranged between 13/3 to 22/- for S.T.; Romes, 18/3; Cleos, 12/6 to 21/-; S.T.P., 12/9 to 19/9; Jon., 12/6 to 19/9.

### Dried Fruits.

Liverpool (1/7/24).

Messrs. J. C. Houghton & Co. report prices for dried fruits as follows:—Currants, Pyrgos, 42/- to 43/-; cleaned 43/6; Amalias, 44/- to 45/-; cleaned, 45/- to 47/-; Zante, 47/- to 49/-; Gulf and Panaritis, 50/- to 55/-; Vostizza, 52/- to 70/-; Australian Currants ex the s.s. "Ceramic" and "Argyllshire" were best grade sold at 57/- to 60/-. Raisins.—Cape. Reduced prices had to be accepted, and little business possible at 40/-; F.A.Q., 52/-; G.A.Q. and A.Q., in packets, 35/-. Sultanas.—Cleaned varieties, 50/- to 53/-; ordinary, 49/- to 51/-; good quality, 53/- to 64/-, and fine, 70/-; Australian, quality mixed as to size and colour, comparing unfavourably with last year's crop. Prices, 52/- to 60/-.

### New South Wales.

Sydney (25/8/24).

Mr. F. Chilton, City Fruit Markets, reports under date 25/8/24 prices as follows:—

Queensland Fruits.—Bananas, 16/- to 23/- per case; Pines, smooth, 10/- to 12/-; Ripley, 6/- to 9/-. New South Wales Fruits.—Bananas, Tweed River, 16/- to 24/- per case; Lemons, 4/- to 7/- per bushel case; Oranges, common, 4/- to 9/-; Navels, 9/- to 14/-; Mandarins, Emperor, 6/- to 16/-; Thorny, 3/- to 7/- per half case; Sevilles, 3/- to 5/- per bushel case; Grapefruit and Shaddocks, 4/- to 8/-; Apples, Granny Smith, 14/- to 20/-; Passions, 4/- to 10/- per half case; Loquats, 3/- to 10/-. Victorian Fruits.—Apples, Jon., 8/- to 15/- per bushel case; Granny Smith, 12/- to 15/-; Pears, Keiffer's, 5/- to 7/-; Jos., 11/- to 16/-; W.C., 12/- to 15/-; P.T., 11/- to 15/-; Tasmanian Fruits.—Apples, Jon., 11/- to 15/- per bushel case; S.T.P., 10/- to 14/-; Dem., 15/- to 18/-; French Crabs, 10/- to 15/-; Crofton, 11/- to 15/-; S.P.M., 10/- to 15/-; Pears, W.C., 4/6 to 7/6 per half

case; W.N., 4/- to 7/6; Jos., 4/6 to 8/-. South Australian Fruits.—Apples, Cleo, 11/- to 14/- per bushel case; Jon., 11/- to 15/-; R.B., 11/- to 16/-; S.P., 10/- to 13/-.

A good demand exists for all lines of choice quality fruit. Apples are scarce, and prices are expected to rise gradually throughout the remainder of the season.

An improvement has lately taken place in sales of citrus fruit, and as the weather is now getting warmer, better prices very shortly are practically assured.

#### Victoria.

Melbourne (28/8/24).

The following are the prices ruling at the Western Market:—Apples, dessert, Jonathan, 9/- to 13/- per bushel case; Delicious, 10/- to 13/-; Five Crown, 8/- to 13/-; Pineapples, 11/- to 14/-; Bananas, choice, 25/-; Navel Oranges, choice, 10/- to 16/-; others, 8/- to 11/-; common Oranges, 8/- to 11/-; Mandarins, 13/- to 18/-; inferior, lower. Lemons, 7/- to 12/-; Passion-fruit, 9/- to 14/-.

#### West Australia.

Perth (23/8/24).

Apples.—Yates, special, 18/- to 20/6; good, 15/- to 17/6; small, to 10/-; Doherty, prime, 14/- to 16/9; others, to 10/-; Granny Smith's, prime, 15/- to 17/9; others, to 12/-; Cleos, best, 11/- to 13/-; others, to

9/-; Dunn's, best, 11/- to 14/6; others, to 9/-; Rome's, to 13/6; Rokewood's, to 12/9; Nickajacks, to 13/6; Statesman, to 12/3. Pears.—Glou Morceau, 14/9 to 16/9; Navel Oranges, best, 11/- to 14/6; medium, 8/- to 9/6; ordinary, to 7/9; Mandarins, best, 12/- to 15/-; others, to 8/-; Lemons, best, 6/- to 9/-; Passion-fruit, 15/3 1/4 case.

#### South Australia.

Adelaide (23/8/24).

Apples, eating, 6/- to 9/- per case; cooking, 4/- to 6/-; Lemons, 6/-; Oranges, 6/- to 7/-; blood, 8/- to 9/-; Mandarins, 15/- to 16/-; Navels, 11/- to 12/-; Poorman, 5/- to 6/-; Pears, 7/- to 8/-; cooking, 4/- to 5/-; Strawberries, 2/- lb.; Melons, 5/- to 6/- per cwt. Prices are exclusive of case.

#### Queensland.

Brisbane (25/8/24).

Apples.—Rokewoods, 14/6 to 16/-; M.F., 10/- to 12/-; Jon., 15/- to 16/-; Rymer and Rome Beauty, 15/- to 16/-; Sturmer, 14/- to 15/-; Statesman, 14/- to 15/-; Stone Pippin, 14/- to 15/-; French Crab, 10/- to 16/-; Five Crowns, 8/- to 13/-; locals, 9/6 to 17/-; cooking, 9/- to 16/6. Oranges, 4/- to 8/6; Navels, 10/- to 13/6; Mandarins, 14/- to 17/6; Glen

Retreat, 10/- to 18/6; Passion-fruit, 5/- to 9/6 1/2 bushel case; Lemons, 2/6 to 4/-; cured, 4/- to 6/- 1/2 bushel; Custard Apples, 5/- to 7/6; Pines, rough, 2/- to 5/- dozen; smooth, 4/- to 6/-; imported Pears, Keiffer's, 6/- to 11/-; Winter Cole, 14/- to 17/-; Winter Nelis, 14/- to 17/-; Jos., 9/- to 18/-; W.B., 12/- to 14/-; B.B., 10/- to 13/-.

#### New Zealand.

Dunedin (15/8/24).

Reilly's Central Produce Mart report under date, 15/8/24, as follows:—Some nice consignments of fruit to hand with prices firmer for most lines. The "Moeraki" brought a large shipment of Australian Oranges and these are being cleared at fair values.

Apples—Choice Jon., 10/-, 12/6; Delicious, 13/- to 16/-; Scarbets, 9/- to 10/6; Cleos, 9/- to 11/6; Sturmers, 10/-, 13/-; Democrats, 12/- to 15/6; choice cookers, 9/6, 10/-. Oranges—Rarotonga repacks, 17/6; Australian Navels, 19/-; American Lemons: 45/-; Melbourne, 20/-; N.Z., 14/-; Marmalade Oranges, 11/6; Sevilles, 14/-; Pears: Winter Nelis, 5d., 5½d.; Cole's, 5d. to 6d.; cooking, 2½d., 3d. Passion-fruit, 17/-; Mandarins, 24/-; Pines, 20/-; Bananas, ripe, 35/-; Fiji's, 27/-; Rarotonga, 20/-.

## Open Letter to Australian Fruit Growers and Shippers.

## REILLY'S CENTRAL PRODUCE MART LTD. Dunedin, N.Z.

Gentlemen :

During 1923 we had the pleasure of faithfully serving growers in N.S.W., QUEENSLAND, VICTORIA and ADELAIDE, selling on their behalf at auction and by private treaty, LEMONS, PEARS, MANDARINS, ORANGES, PASSIONS, BANANAS, LEMONS, GRAPEFRUIT, PERSIMMONS, LOQUATS, POORMANS, FIGS, SEVILLES, FRESH and CURED GRAPES, APRICOTS, PEACHES and APPLES with satisfaction to our consignors and customers.

The service given our patrons during the past twenty-one years has won the respect of consignors and customers in N.Z., ENGLAND, AUSTRALIA, CANADA, the ISLANDS and AMERICA, and we are justly proud of this fact.

If there are any growers, packers or exporters of choice dessert fruits, wishing to try our Dunedin markets, we respectfully offer you our service in this market.

With a desire to faithfully serve you,

We are, Sincerely yours,  
REILLY'S CENTRAL PRODUCE MART, LTD.

Cable address :— “REILLY, DUNEDIN”

N.Z. Agents for :—

Hannah-Cloke Air Free Case.

Ellis Fruit Grader.

Black Leaf “40”

“Vallo-Giraffe” Sprays.

Combined Buyers Ltd., etc., etc.

Melbourne Representative :— Mr. ESMOND RUSSELL, 60 Queen St., Melbourne.

From whom all Shipping Information can be obtained